PUBLIC HEALTH

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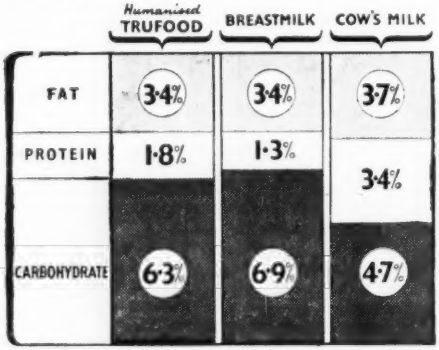

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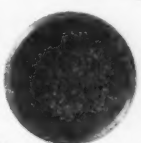

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EDITORIAL

General Practice and the Health Department

Whatever else Mr. Bevan may have done for Medicine in Britain by his National Health Service Act, he has shaken it out of complacency. On every hand there is evidence of fresh consideration for fundamentals; "Branched thoughts new grown with pleasant pain" are a healthy sign of regeneration. Of the many issues now under close scrutiny none is worthy of more attention than that which involves the relationship of the health department and the general practitioner. The subject was considered at some length in a recent annual report (Brockington, West Riding), in which it was said:—

The Regional Hospital Boards and local health authorities should have the welfare of the general practitioner constantly in mind, for inasmuch as this is neglected their task will be made both more difficult and less valuable. The general practitioner should represent the practice of medicine at its fullest and finest. The emphasis now placed upon hospitals . . . and also the publicity of the Spens Report on specialist salaries, with its dazzling prospect of large incomes, these, and other happenings, have tended to obscure the fact that medicine can survive and flourish only if general practice survives and flourishes. It is quite useless to have hospitals without general practice and the replacement of general practice by a number of different specialists would end in the creation of a wilderness in which the public would wander seeking health but but never finding it. . . The most important one element in any medical service is the general practitioner, who sees the individual as a member of a family, in the community setting and over the years. For some years now the general practitioner has worked single-handed, much overburdened and little assisted by auxiliary personnel to relieve him of routine duties; he has been doing much that a nurse would do and leaving much untaught that a health visitor could teach; many of his patients have gone to hospital because of his inability to cope, and not because of his lack of skill to deal with their illnesses. . . .

In the past there has been antagonism between general practitioners and local authorities and the work of the local authority often seemed to the general practitioner to encroach upon his own work. This was never more than a little true but henceforth there need be no more misunderstanding and only the rivalry of two partners striving for a common end; the local authority and the general practitioner have been placed by the National Health Service Act in harness together. The school health service, the infant welfare and ante-natal clinic, the midwifery, home nursing, health visiting, home help services, and all else that the local health authority is responsible for, must now be seen in correct perspective as an aid to the general practitioner. The general practitioner of the future will be the family doctor perhaps more completely than ever before; all services of the local authority, whether in the clinic or the school or the home, must be regarded as accessories to his general care provided to meet some special need. . . .

Success or failure of this new form of social medicine will mean much to the community and to the public purse; the present growth of institutional care must be counter-balanced by a renewal of belief in the home.

Collings (*Lancet*, 1950, **1**, 567) evidently has little or no faith in this doctrine, when he says of the relationship between the general practitioner and the local authority:—

In practical terms, it is fair to say that such a relationship hardly exists. Often there is a mutual animosity and distrust. The idea that the local-authority services are complementary to the work of the G.P. is, in my opinion, theoretical; in fact, these services are substitutes for some of the work which was once his responsibility but has long since passed from his hands.

The one possible exception to this rule is the home nursing service. The doctors are ready enough to use the nurse to give injections, to do dressings, to give enemas, and to perform other routine nursing tasks; but even so it is rather a one-way business. Except in country districts, I met very few doctors who knew their nurses or had anything to do with them beyond telephoning instructions for them to go to such and such an address, and do this or that thing.

Before July 5th, 1948, the midwifery and maternity and child welfare services had in many areas relieved the G.P. of almost all responsibility for conducting confinements or taking an interest in the health and welfare of the normal mother and child. There is practically no two-way communication between the clinic and the practitioner. The clinic doctor or the midwife will inform the G.P. of any abnormalities they discover; but the practitioner seldom seems to give any information to them, or to trouble himself about what goes on at the clinics, even where his own patients are concerned.

More than once I have seen a mother come into the doctor's surgery carrying in her arms a baby three or four months old, and this was the first intimation he had ever had that the lady had so much as been pregnant. . . .

Many of the same remarks apply to the relationship of the G.P. and the school doctor; but unless financial issues intrude, as they have done in the midwifery services, the present equilibrium is unlikely to be disturbed.

To the average practitioner the health visitor seems to be an enigma. He regards her with something between suspicion and cynicism, and I have not heard of a G.P., on his own initiative, using the services of a health visitor. Admittedly, health visitors are more than fully occupied meeting the demands of the tuberculous patients and "new" mothers; but this is not the reason for the doctor's lack of interest in them or for his not seeking their assistance.

Another aspect of this problem, and one of great complexity, is that provided by S.28 of the Act, which makes local health authorities responsible for care and after-care. In this picture the hospital patient plays a leading part. The local health authority cannot give effective aid unless informed of the discharge of patients in need of after-care. Is the hospital

to give information direct to the health department and, if so, is this to be regarded as a further interference with the doctor-patient relationship? It is interesting to speculate what Collings would have said about Circular R.H.B. (50) 22 had it been issued earlier. This, it will be recalled, has said:

> It is generally agreed that the family doctor should have early information of the discharge of a patient from hospital and should make arrangements with the local health authority for services such as home nursing, domestic help, etc. There are, however, cases where direct information, including any necessary medical details, should pass from the hospital to the local health authority, in order to avoid a break in the services provided, *e.g.*, in the provision of special nursing requisites for paraplegics, or more simply to arrange for immediate home nursing attention or domestic help. Such arrangements should, of course, only be made with the patient's agreement, and the family doctor should be informed that arrangements have been made direct with the local health authority. A form agreed regionally for transmission of this information would be useful.
>
> In maternity cases where either the local health authority's midwife and or antenatal clinics have supervised the patient prior to hospital admission, information regarding treatment and any abnormal occurrence should be supplied to the medical officer of health of the local health authority on the patient's discharge from hospital. Advance information should, of course, be given whenever a maternity case is discharged early and requires care through local health authority service.
>
> The joint responsibility of the family doctor and the medical officer of health or school medical officer, is recognised, and it is suggested that the same information should be sent to the family doctor and, for a school child, to the school medical officer or, for a child under school age, to the medical officer of health of the county or county borough in which the child lives.

In some areas arrangements for notifying health departments of all relevant matters have been in operation for some time with the concurrence of the general practitioners, who have welcomed the ready assistance of the health department in solving some of the patient's problems. In one area the only criticism levelled by the general practitioner revealed the inadequacy of previous arrangements, since he now found himself approached by the health department about help for his patient days or even weeks before receiving the customary letter from the hospital.

A further aspect of the same problem is the present controversy over the right of a school medical officer to refer children direct to a specialist for advice. It will be recalled that at last year's representative meeting of the B.M.A. a resolution was adopted to the effect that school medical officers should not, except in emergency, refer any school child direct to a hospital or consultant but only to the family doctor. In a subsequent discussion* representatives of the Council of the Society of Medical Officers of Health and the British Medical Association agreed on a compromise, that the school medical officer should first inform the family doctor and give him an opportunity to express an opinion. Letters in recent issues of the *Medical Officer*† have exaggerated this compromise into a relegation of the school medical officer to a position of inferiority, and also represented it as pandering to "ethics" in disregard of the patient's interest. On the other hand, a G.P. correspondent takes the opportunity to indict "a ridiculous system whereby two or more doctors have a hand in the medical care of the child."

Is not this all rather childish? The inescapable fact is that "joint responsibility" exists. The medical officer of health must discharge his duties as school medical officer under the Education Act of 1944, and its supplementary regulations, and his duties for the prevention of illness, care and after-care under S.28 of the National Health Service Act. On the other hand, the general practitioner must be in a position to fulfil his obligations as the family doctor. Why should this lead to bickering unless it arises from misunderstanding and ignorance of both parties? The school medical officer who does not consult the family doctor before taking action in the case of a school child cannot claim to be wholly disinterested in the welfare of the child. What extenuation can he give for the circumstance that may arise in which the specialist remains in ignorance of vital information only known to the family doctor? Is the general practitioner not equally to blame when, as Dr. Collings says, he regards the health visitor as an "enigma" with "something between suspicion and cynicism" and is never heard of "on his own initiative using the services of a health visitor"? It is surely time that these suspicions were exorcised in the interests of the people for whom our services are created. There is little purpose in trying to apportion blame for what has happened in the past. We must look now to the future. The general practitioner who accepts the medical officer of health, and all the varied and valuable services he now commands in a true spirit of partnership, will do much to help to raise general practice out of that slough of despond which Dr. Collings has so vividly described. The medical officer of health who brings the practitioners of his area into alliance with him, and who does not quibble over consulting them on all matters affecting their patients, will equally do much to make a reality of the great new fields of executive social medicine which open out before us. The public, that long suffering and so often forgotten beneficiary of all our efforts, will gain immeasurably.

* See page 157.

† *Med. Offr.* (1950). **83**. 81, 103, 111, 123.

The State of the Public Health in 1948

The Report of the Chief Medical Officer on the state of the public health for the year ended December 31st, 1948, included, as is the post-war practice, with the Report of the Ministry of Health for the year ended March 31st, 1949,* will be the last to be signed by Sir Wilson Jameson, whose retirement takes place this month. We therefore appreciate particularly the reference in his own introduction, which summarises the contents of the main report, to "the close and harmonious relations with the staffs of public health departments and with medical officers of health in particular," and his tribute to the work of M.O.H.s, sanitary inspectors and health visitors. "The important part they have still to play," he writes, "should not be lost sight of in the midst of administrative changes brought about by the introduction of the National Health Service." Members of the Society will know how much the "close and harmonious relations" are due to the C.M.O.s personal qualities and his regularity and accessibility as a member of the Society's Council.

It is gratifying, too, that Sir Wilson is able to describe 1948 as memorable in the annals of British medicine and public health and for its vital statistics. It saw the inception of the National Health Service (objectively described in Chapter V by Dr. G. E. Godber) and the centenary of public health. The death of that famous former C.M.O., Sir George Newman, whose work is eloquently commemorated by Sir Wilson, took place on May 26th, a month or so before "the appointed day" of the new Act. The year's weather, whilst it did not entirely suit summer holiday makers, was exceptionally favourable for health, and was an important factor in leading to the lowest death-rate ever of 10·8 (a decline in the comparative mortality index of 20% compared with 1938) and low mortality rates in many of the fatal diseases. Infant mortality (34), neonatal deaths, deaths due to prematurity and stillbirths (23·2) all reached new low levels.

Once again Sir Wilson names the medical officers who have been responsible for the chapters in the main report. Dr. Percy Stocks, of course, covers the statistical picture; Dr. Bradley and his colleagues deal with the general epidemiological history of the year, and a welcome innovation in this part is a series of extended accounts of the field investigations of several outbreaks with features of special interest. The last of these describes a small outbreak of suspected botulism which occurred in London in June, 1947. Although the diagnosis was never proved, the five patients had all eaten the same dish (macaroni cheese) on the same day and all showed clinical signs associated with the disease. The dish was consumed in a café near a large market with much dust and horse-drawn traffic during a spell of very hot, dry weather, and the presumption was that spores of *Cl. botulinum* might have been blown on to the mass of macaroni and have grown in it anaerobically.

* Cmd. 7910. (Pp. 373. Price 7s. 6d. net). London: H.M. Stationery Office.

Prof. G. S. Wilson describes the work of the Public Health Laboratory Service. Attention is drawn to the technique of detection of enteric fever carriers by a selective examination of sewage, first developed by Dr. Moore, of the Exeter Laboratory. The Air Hygiene Laboratory at Colindale has been carrying on field trials in schools to determine any relationship between the bacterial contamination of air and the extent to which infection spreads, but no conclusions can yet be drawn. Irradiation of the upper air of the classrooms by ultra-violet light is also being tested and considerably reduces the numbers of some types of bacteria, but it is again considered too soon to say whether the incidence of infections in irradiated classrooms is less than in ordinary classrooms. Prof. Wilson gives the total number of outbreaks of food poisoning in 1948 as 964, of which 663 are ascribed to *S. typhimurium* and 245 to other salmonellae. There were 15 outbreaks of staphylococcal toxin poisoning.

Relevant to these epidemiological section of the Report, though it appears in the "Miscellaneous" chapter under a reference to the resumption of surveys of local health services by the Ministry's medical officers, is the following passage, which is of sufficient importance to merit quotation :—

Medical officers of health vary in their attitude to epidemiology. Nearly all of them are deeply interested, but some seem to be rather uncertain of their position, which they imagine has been affected by the National Health Service Act. The functions of the district medical officer in respect of the control of infectious diseases remain unaltered by the Act, but he now has augmented resources in the investigation of these diseases. The Public Health Laboratory Service places at his disposal the results of bacteriological investigations made by experts with hitherto unequalled laboratory facilities. The medical officers of the Ministry, whose help he may seek, bring him consultative aid.

The transfer of some of his functions under the Act should leave him with wider opportunities for epidemiological studies and afford him more time for the control of communicable diseases, but in some areas this transfer of functions has also resulted in a reduction of staff and the medical officer of health has not been able to increase his activities in this field of preventive medicine, in which after all lies his first duty, because he was without medical assistance on his own staff, and was overwhelmed with the multiplicity of committees.

All appreciate the help which they get from the Public Health Laboratory Service, but there are a few who seem to think that all they have to do is to inform the laboratory and to await results without any more effort on their part. This is unfortunate, for the medical officer of health can sometimes obtain evidence of the utmost importance which the laboratories cannot get.

Local authorities should encourage their medical officers to put first things first, and, when an epidemiological emergency arises, to concentrate upon it, even at the sacrifice of time normally devoted to his many routine duties. In such an emergency his staff might well be supplemented by the temporary help of an assistant county medical officer or of health visitors. To have such help would in no way lessen his responsibility. Epidemiology is his prime function, and he and his authority remain responsible for the control of communicable diseases.

"The outstanding epidemiological feature of 1948," writes the C.M.O., "was the absence of influenza." The ubiquitous and protean group of conditions described as influenza on death certificates has accounted for more than 1,000 deaths in the great towns in the first quarter of each year between 1918 and 1947, with the exceptions of 1938 (869), 1942 (862) and 1948 (693); in the first quarter of 1948 they numbered only 280. In no case was influenza virus recovered in the laboratories. Whooping cough gave 146,383 notifications and 748 deaths, but case-fatality was lower than ever before; the progress of the M.R.C.s controlled trials of pertussis vaccine is described.

Dr. Dorothy Taylor's chapters on maternity and child health record satisfactory vital statistics in addition to those already noted above. Maternal mortality (including abortion) again fell to a new low level of 1·02 per 1,000 total births. All this progress was achieved with the birthrate still high at 17·8. Drs. Mary Crosse and F. J. W. Miller contribute reports on the schemes for care of premature babies in operation in Birmingham and Newcastle respectively.

The rapid increase of day nurseries, especially those provided by industry, mainly in the textile areas, is described, and the reason for the introduction of the Nurseries and Child Minders Regulation Act, passed in July, 1948, to give local health authorities some power of controlling the standard of private nurseries.

In the section on nutrition, Dr. Magee reports that the clinical surveys of school children show little change, though the housewives survey again showed less satisfactory; however, the haemoglobin levels of these women and of nearly 1,000 expectant mothers were very satisfactory. Dr. Bransby's work on the growth rates of children was continued; a systematic long-term study on the growth rate of infants in different parts of Britain is now under way.

Space does not permit of references to further parts of this interesting report, which touches on so many aspects of the national life. Dr. J. Alison Glover has again acted as general editor and must be congratulated on the production of so homogeneous an effort by a large team of contributors.

Prophylactic Inoculations and Poliomyelitis

Little enough is known about what leads to an attack of poliomyelitis in those exposed to the virus. Fatigue, or excessive use of some muscles when the virus is already present in the system, appears to play some part in influencing not only the degree of paralysis but also in determining its site. Trauma seems on occasion to be a causative factor, though it is not known whether injury merely determines the site of the paralysis or if, in its absence, the patient might have escaped obvious paralysis. Its influence is felt to be sufficiently marked to make it inadvisable to carry out in epidemic areas any but the most urgently necessary operations on the nose and throat.

To these factors it is possible that another is to be added. In the second week of September, 1949, two children aged ten months were notified to Dr. D. H. Geffen, Medical Officer of Health of the Metropolitan Borough of St. Pancras, as suffering from poliomyelitis. Both had been immunised with a combined pertussis and diphtheria vaccine within the preceding three weeks. Inquiries into all cases of poliomyelitis in children in the borough during the period of the epidemic showed six had been vaccinated within 22 days of onset. Similar cases were occurring elsewhere. Out of 359 cases of poliomyelitis in London up to the end of September, 182 were of children under five years of age. Thirty of these had been immunised within four weeks of the onset of paralysis affecting in particular the limb of injection. Twenty-one received the combined pertussis and diphtheria vaccination, eight A.P.T., and one pertussis alone. At least seven of the remaining children had been immunised recently but the paralysis in each of them did not affect the limb of injection. An association between intramuscular injection of a wide range of materials and flaccid paralysis of one limb has previously been recorded, occurring more frequently when poliomyelitis is prevalent. The incidence of poliomyelitis amongst the inoculated, and the fact that the recently injected limb was more particularly affected, so that the paralysis in the inoculated was not of the same general pattern as that in patients of the same age group not recently immunised, while affording no proof of association, certainly suggests that there was some connection between the inoculation and development of poliomyelitis. Dr. Geffen discusses the significance of what happened in his district in a paper which appeared in the *Medical Officer* of April 8th, 1950. Ruling out the possibility of the virus having been introduced with or at the same time as the vaccine, he favours the view that the paralysis had been activated and localised by the inoculation of persons already carrying the poliomyelitis virus. This suggestion is supported by the fact that more cases followed the use of the combined reagent which does cause more irritation than the other preparations. *The Lancet* of the same date contains an article on the same subject by Dr. B. P. McCloskey, Poliomyelitis Officer of Victoria, Australia. An epidemic of poliomyelitis, starting in Melbourne in 1949, spread to the country areas of the State of Victoria and the adjoining State of South Australia. Early in the epidemic cases came to notice which had received an injection of pertussis vaccine alone or combined shortly before onset. Thirty-one such cases in children of ages 1 to 15, who had some kind of prophylactic in the preceding

three months, came to light. Although, clinically, the cases associated with recent immunisation were indistinguishable from the other acute cases of poliomyelitis seen at this time, paralysis was commoner in the inoculated than in the uninoculated extremities in those cases which received pertussis vaccine either alone or in combination; a smaller difference in incidence was found in those given diphtheria toxoid alone. When a patient received more than one inoculation, the last injection before the onset of symptoms was that usually associated with the location of paralysis. The interval from the last inoculation before the onset of symptoms to that onset ranged from 5 to 32 days. This period agrees with the intervals of 3 to 30 days from the date of the operation to the onset of symptoms when an attack had followed an operation for the removal of tonsils and adenoids, and agrees, too, with the generally accepted limits of 5 to 30 days as the period of incubation of poliomyelitis.

Dr. McCloskey considered that his findings indicated that an injection of pertussis vaccine given during an epidemic of poliomyelitis may determine the onset of paralysis in the inoculated child; but that the evidence that an injection of diphtheria toxoid might have similar effects was less conclusive.

Contamination of the prophylactic agent as an explanation of the phenomenon was ruled out because the products were made in different countries, and when used in parts of the country not suffering from poliomyelitis were not followed by harmful results. Faulty syringe technique was also ruled out. The hypothesis most favoured was that local tissue damage caused by the injection had affected the neurones of the nerves supplying the area, the hypersensitive neurones proving a weakness in a patient who at the time was infected with poliomyelitis virus and who in ordinary circumstances would possibly have overcome the infection without developing any signs of disease. This hypersensitiveness, which reaches its maximum about the eleventh day after injection, would have much the same effect as severe muscular effort in converting a slight infection into paralytic poliomyelitis.

The position would seem to be then that the occurrence of these cases following inoculation is more common than can be accounted for by chance, and that although cases have followed injection of diphtheria toxoid, the risk of their following that is much less than when pertussis vaccine has been injected.

Dr. Geffen felt it advisable during epidemic prevalence to discontinue the use of combined vaccine. The Consultative Council on Poliomyelitis of the State of Victoria advised the medical practitioners to discontinue the use of pertussis vaccine while poliomyelitis was prevalent, though not considering that similar action in regard to diphtheria toxoid was necessary.

The Ministry of Health is understood to be obtaining a full statistical evaluation of these occurrences in England, 17 more of which are regarded by Dr. J. C. Martin, in the current issue of the *Archives of Disease in Childhood*. Guidance as to administrative action during the next period of polio prevalence will no doubt depend on the significance of the figures available and on the relative risks involved.

The Late Professor J. A. Ryle

Dr. J. Greenwood Wilson (M.O.H., Cardiff) has forwarded a letter dated December 14th last, which he received from the late Prof. J. A. Ryle, whose death was reported in our last issue. We are glad to publish the following extracts from this letter as an additional tribute to a man who did so much to bring together Social Medicine from the academic aspects and preventive medicine in the field:—

"By an irony of fate, I am convalescing from a coronary thrombosis. ! This had been preceded for some long time by angina, but the idea for the paper (on the Epidemiology of Coronary Disease) sprang not so much from this personal experience as from the R.G.s Social Class Mortality Ratios and the records of my old days in practice.

"The Institute has had a busy and fairly productive year. . . . I have made it rather a matter of policy to send on papers to the general medical journals and not to special journals, for it seemed to me that it was the old hierarchy of hospital teachers and specialists who stood most in need of conversion to a socio-medical way of thinking. However, we have also published in the *British Journal of Social Medicine* and in PUBLIC HEALTH. A big paper on the mortality and morbidity of appendicitis will shortly appear in the *Journal of Surgery*.

"Although (as a small matter of ancient history) I wrote my first editorial, as student-editor of the Guy's *Gazette*, in 1911, on the social functions of medicine; and, although I always felt a slight sense of discontent at having to deal so much with end-result conditions in hospital and harboured something what is called of a social conscience—I did not, please, invent the term 'social medicine.' This was coined just 100 years ago by Dr. Jules Guérin, of Paris, and employed in much the same way as we employ it. Prof. René Sand, of Brussels, has been using it and pressing for the advancement of the subject by teaching and research since, I think, 1912.

"It was Salusbury MacNalty who first worked the idea of a Chair of Social Medicine for Oxford, a few years before it came into being under the authority of Sir Farquhar Buzzard and with the support of the Nuffield Trustees. Wilson Jameson has, I fancy, favoured the use of the term, if only as a means of stirring new interest in the science and philosophy of preventive practice which date from Chadwick and Farr, Simon, Southwood Smith, Duncan and others.

"The only contribution I have made is to try and put it 'on the map' academically and to initiate appropriate collaboration between academics and field workers. I wouldn't have missed the past six and a half years for anything.

"I hope our conspiracy of physicians, statisticians, social workers, public health, child and industrial health officers and others (in teaching and research) really has helped to provide something of a new impetus.

"The contacts the work has given me with your service have been a great source of satisfaction and inspiration."

General Report of the Census, 1931

The Registrar General has recently issued the General Report• of the 1931 Census of England and Wales, the concluding volume of the series dealing with the Census of that year.

Though much of the contents of this general volume were written in 1936, completion was delayed by the need to concentrate on the special series of County Volumes showing the changes caused after the 1931 Census by alterations of county districts under the Local Government Act, 1929, and including a commentary upon those alterations. The last of these volumes was published in 1940. Preparations for national defence, the establishment of the National Register, war-time restrictions on printing and normal activities, and the post-war obligation to overtake accrued annual arrears while keeping pace with the full programme of current publications, all contributed to further delay in the completion and issue of this concluding Census volume.

The General Report possesses historical value, and without it the story of the 1931 Census would be incomplete. The first chapter describes in detail the preparations necessary before the Census could be held, the method of census taking, and the system of tabulation and analysis of the results. The remaining chapters are a commentary upon the previously published tables of the results of the Census. This Report will also be of use as a guide to those who have the task of preparing for the next Census, due in 1951.

A special University of London Lecture in Pathology on "The General Pathology of Virus Infection" will be given at the London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C.1, by Prof. F. M. Burnett, F.R.S., Professor of Experimental Medicine, University of Melbourne at 5.30 p.m., on Tuesday, May 9th, 1950. The chair will be taken by Prof. Wilson Smith, F.R.S., Professor of Bacteriology in the University of London. Admission free, without ticket.

• Census of England and Wales, 1931: General Report. H.M. Stationery Office; price 10s. 0d. net (or by post from P.O. Box 569, London, S.W.1; price 10s. 5d.).

EARLY DAYS IN SCHOOL HEALTH WORK *

By J. E. SPENCE, M.B., D.P.H.,

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The way for the introduction of legislation providing for the establishment of a school medical service in the Education (Administrative Provisions) Act 1907 had been paved by pioneers during the 19th century. Among them may be mentioned Dr. Priestley Smith and Dr. Clement Dukes, Medical Officer of Rugby School. In 1890 the London School Board appointed their first school medical officer, Dr. W. R. Smith, and in 1893 Bradford appointed Dr. James Kerr to a similar position in that city, where he remained until he followed Dr. Smith with the London Board in 1902.

The first act dealing with handicapped children—the Elementary Education (Blind and Deaf Children) Act—was passed in 1893. By it an obligation was placed on the parents to cause a blind or deaf child over the age of seven years to obtain elementary education and every school authority was required to make suitable education available for such children. A committee to enquire into the education of feeble-minded and defective children was set up in 1896 which recommended that every school authority should ascertain what children were incapable, by reason of mental or physical defect, of benefiting by education in ordinary schools and what children, by reason of epilepsy, were unfit to attend ordinary schools. The recommendations of this committee were incorporated in the Elementary Education (Defective and Epileptic Children) Act 1899. This act, however, was permissive and was not adopted at once by many education authorities.

It was further realised that there were many other children in urgent need of medical care and supervision, who did not come within the operation of these two acts, who were at a disadvantage or even unfit to benefit by education and it was also recognised that there was a close and important connection between the physical condition of the child and the process of education. The Interdepartmental Committee on Physical Detereoration in 1904 dealt with a wider question of which the health and physical condition of the school child was only a part. Its report revealed evidence of the existence in certain sections of the community of physical unfitness or even deterioration. Attention was drawn to the need for improvement in lighting, ventilation and seating arrangements in schools and the importance of physical training was also stressed. There was need for a more complete system of medical inspection in schools than had yet been attempted and a systematised medical inspection of school children should be a public duty of every school authority. They suggested, however, that general inspection should be limited to that class of school in which the presence of ill health might reasonably be anticipated. In other cases it was contemplated that teachers should submit ailing children to the medical officer for examination. It was also recommended that provision should be made for the feeding of school children, at first and by preference, by voluntary organisations, insisting that every precaution should be taken throughout to maintain the responsibility of the parent in the matter.

In 1905 the Board of Education appointed a committee to report on what was then being done in connection with medical inspection in schools and it was found that practically all the work which was being done, was being done by the local authority and not the education authority. In 48 areas some degree of medical supervision had been established while in 18 others some more or less voluntary work had been done in this direction by teachers or sanitary officers, and several authorities had appointed the medical officer of health as medical officer to the education authority. The committee pointed out the distinct advantage of the school medical officer being also medical officer of health as the duties of the two officers naturally overlap, especially in relation to the prevention of the spread of infectious disease and the sanitary condition of the premises.

Looking back from the present standpoint of the relationship of the State to the parent and to the child it is interesting to note how far we have progressed, or shall we say deviated, from the views of the early years of the 20th century. Several witnesses who gave evidence before this committee recorded the view that the provision of medical treatment by local education authorities would tend to pauperise the parents, would involve a considerable burden of expense and would lead to apprehension on the part of private medical practitioners.

The first practical result of the reports of these committees was the passing of the Education (Provision of Meals) Act 1906, which enabled local education authorities to take steps for providing school children with meals. The local education authority was empowered to co-operate with any committee which would undertake to provide food and might assist them with equipment and staff. They were only empowered to incur expense in the purchase of food when private funds were not available or were inadequate, in which circumstances the Board of Education might authorise an expenditure out of public funds not exceeding a halfpenny rate.

Mr. Birrell's Bill of 1906, in which was included a section to enable local education authorities to make approved arrangements for attending to the health and physical condition of elementary school children, failed to pass, but this provision was not long delayed. In the following year it was included in Section 13 of the Education (Administrative Provisions) Act. The section laid the duty on the local education authority "to provide for the medical inspection of children immediately before or at the time of, or as soon as possible after, their admission to a public elementary school and on such other occasions as the Board of Education direct, and the power to make such arrangements as may be sanctioned by the Board of Education for attending to the health and physical condition of the children educated in public elementary schools." The clause embodied two basic principles on which the school medical service has been built up, namely that the physical condition of the child should be systematically ascertained and that the local education authority should have the power to attempt to make the health of the child such that he could profit by the instruction provided. Medical inspection was imposed as a duty, but treatment of those suffering from any ailment was a power the local education authority might exercise under certain conditions.

In its first memorandum on medical inspection the Board constantly reiterated the importance and advantages of the work being carried out in intimate conjunction with the public health authorities under the direct supervision of the medical officer of health and that the work of the school medical officer should comprehend the whole external environment of the child.

Although the Local Government Act of 1888 had empowered county councils to appoint medical officers many had not done so by 1907 and such councils were urged not to delay the appointment any longer since in no other way could they secure adequate control of and efficiency in carrying out the work. As a result backward counties were brought into line by the appointment of county medical officers who were also school medical officers for the area.

The original regulations issued by the Board provided for not less than three inspections during school life namely on admission, about the age of seven, about the age of ten and a further inspection before leaving school, possibly at first in place of the inspection at the age of ten. It was realised that this full programme could not be put into operation at once and local education authorities were asked to make provision in 1908 for the examination of entrants and those leaving school, provision to be made for the examination of the seven-year-olds at a later date.

In the appendix to the first annual report of the Chief Medical Officer of the Board (Sir George Newman) is a list of school medical officers of the local education authorities, and it is pleasing to note that three of the original school medical officers in Lancashire in that year are still members of the North-Western Branch of the Society, namely, Dr. J. J. Butterworth,

* Presidential Address to the North-Western, Maternity and Child Welfare and School Health Service Sub-Groups Society of Medical Officers of Health, Manchester, November 4th, 1949.

the first school medical officer for the county, Dr. J. W. Talent, formerly of Ashton-under-Lyne, and Dr. E. W. Reese Jones, of Blackpool. Dr. J. J. Buchan, then Medical Officer of Health and School Medical Officer of St. Helens, later went to Bradford has only recently retired and is an Honorary Fellow of the Society, while Dr. Beard, of Carlisle, is still a member of the Branch.

What the New Service Revealed

The type and prevalence of defects common among school children at the inception of the service were only vaguely realised and for the first few years the energies of those engaged in the schools were confined to the ascertainment and recording of defects to form a basis on which the service could be built up and to indicate the most urgent problems requiring attention. The mass of statistical information gathered during the early years by the examination of entrants and leavers revealed a wide prevalence of preventible defects among entrants which, after the first world war when the Maternity and Child Welfare service had been established, led to the extension of that service beyond the welfare of the infant to the welfare of the toddler in an attempt to reduce the amount of preventible illness among school entrants. At the other end of school life were found defects which reduced the efficiency of the young adult, a finding which was underlined by the examination of recruits and rejection of a large proportion during the first world war.

During the first few years of medical inspection the routine examination of large numbers of children and the compilation of masses of statistics was the only achievement of the service in the majority of areas. It was only in the larger and more enlightened urban areas that any effort was made to deal with defects which were found. Defects found during inspection were pointed out to the few parents who responded to the invitation to be present, to the majority the defects were notified by letter. With the limited staff an endeavour was made by home visits by the school nurse to follow up the children with defects requiring treatment. Re-examination of children who had defects requiring treatment was carried out but as the leavers were examined during their last year at school and it was rarely possible to re-visit a school within 12 months, most of the children had left school and it was not possible to ascertain whether any treatment had been obtained. The following up and re-examination of defective entrants revealed a great deal of indifference on the part of the parents to the findings of the school medical officer, or if the parents were sufficiently interested to accept advice to take the child to their own family doctor, little or nothing more was done. Many of the doctors were indifferent while others ridiculed the findings of the school medical officers and informed the parents that there was nothing wrong with the child or that treatment was unnecessary even when the defect was unhealthy tonsils as large as plums or a squint which could be recognised at a distance. The work tended to be extremely dull and uninteresting as no apparent benefit accrued, the only apparent result being the compilation of statistical information, the value of which was not then fully appreciated.

Work in the Dales

Work in a thinly populated rural district was strenuous involving much travelling by open car, trains or horse-drawn vehicles to outlying schools in the fastnesses of the lake district. In the winter months it was dull and unpleasant, particularly when snow and ice made the roads unsafe. In summer, motoring on water bound macadam roads raised clouds of dust and one returned in the evening covered with a grey coating of dust. By judicious arrangement of the annual programme of school inspection these disadvantages could be compensated for to some extent. Work in the drab but more thickly industrial areas lying in closer proximity to the railways could be left for winter days and the schools in the outlying valleys of the lake district visited during the summer months. Distances were great, outlying schools being as far as 70 miles from the county headquarters and, as train services were not good, the work in the outlying parts of the county could only be carried out by residing at a convenient centre while the surrounding schools were visited. For the inspection of one outlying area the work was planned for a fortnight and temporary residence for that period was fixed up in a suitable centre. This had many compensations as it left one free to explore the country during the long summer evenings and at the week-end. Districts nearer the centre involved being away from headquarters for a week at a time, returning to the office at the week-end to clear up the work of the week and settle the details of the next week's work which had been planned two or three weeks in advance. Scattered schools which could not be visited conveniently from a local centre were visited by car during the autumn and spring months, often involving a journey of 30 or 40 miles each morning and evening. During the winter months the schools in the small urban areas were visited.

Two assistant school medical officers and a school nurse worked as a team. As most of the schools had not more than a hundred children on roll the annual visit could be completed comfortably in a day; entrants and leavers could be examined, previous defectives reviewed, special cases referred by teachers examined and perhaps a rapid review of all the children present to pick out obvious defects. The small schools in the remote rural areas presented a greater difficulty in the organisation of the work. Many were not easily accessible from the railway or from a local centre and could only be reached by hiring horse conveyance. Many of the rural schools had less than 40 children on the roll while a number had less than 20. Where possible these small schools were inspected by one medical officer, the other carrying out an inspection at a school two or three miles away. An early recollection relates to the inspection of two small schools in Wasdale. We were staying at Seascale as a local centre for the district and set out by horse and trap in the morning for Nether Wasdale School, seven miles away. It had been decided that one medical officer should examine this school while the other drove six miles further on to examine the children in Wasdale Head School, the choice being decided by the spin of a coin. It was a delightful summer day for a drive along the side of Wastwater, with lunch at the head of the valley, and as a day's work the examination of three children. There were only ten children on the roll at Wasdale Head School. This was the only visit paid to this school for medical inspection as, a short while later, one family with five children left the district and the school was closed, the remaining children being conveyed daily to Nether Wasdale. With the increase in the number of motor cars in rural districts many of these small schools have since been closed and the children are now conveyed to neighbouring schools by car. Owing to the dwindling number of children in the dale Nether Wasdale School has now been closed and the children from Wasdale Head (two or three), together with a few from Nether Wasdale who are picked up *en route*, are conveyed to a school ten miles distant and returned each evening. This form of transport affords an excellent opportunity for a day's holiday as the child has only to be a few minutes' late at the appointed rendezvous. While staying in Wasdale towards the end of the war I noticed one family of three children who frequently managed to arrive at the rendezvous a few minutes after the car had passed. They were town children.

In other remote valleys the same problems presented themselves. From Cockermouth there was a journey of ten miles or so to Buttermere, a school with about 30 children on roll at which there would be three or four entrants and two or three leavers to examine, and here again another larger school at Loweswater could be fitted in to form a day's work. In the fell side along the Eden valley there is a string of small villages with schools having 20 to 30 on roll but here access was easier and it was possible, by taking part of the lunch hour, to fit in four schools in a day, in which there were a total of 12 to 14 entrants and 10 or 12 leavers. In this district the use of a motor cycle on which a small portable weighing machine could be carried enabled one medical officer to visit four schools in a day, leaving the other medical officer and a school nurse to visit a larger school by car.

The general opinion is that children living in these remote areas are sturdy, robust, rosy cheeked and free from disease, but this opinion was not borne out by medical inspection. Attendance at school was then compulsory for all children over the age of five residing within a radius of three miles from the school. Transport of children from outlying farms was un-

known and often children from the age of five tramped three miles or more across field paths, tracks and main roads to school and then home again in the evening. The rural schools, especially the church schools, were rudimentary in construction and amenities. They were most commonly heated by closed stoves and had no open fires; the cloakroom was the porch with no facilities for drying clothes and children who had got wet had to remain in damp clothes all day. None of the schools had any provision for a mid-day meal beyond a kettle which could be boiled on the stove; the mid-day meal consisted of sandwiches etc., washed down with a brew of tea made by one of the elder girls. The lighting and ventilation of the building and the sanitation was mid-victorian. There was one school in which the children who required a drink had to depend on rain water from a tank which passed through a charcoal filter which had probably not been renewed since it was installed. The ideas of some of the village parsons on sanitation were as archaic as the buildings. On complaining about the lighting to one parson I was informed that it had been good enough for 50 years and would outlast his time.

In such circumstances it is not surprising that the children were not always robust and rosy cheeked. A high proportion of enlarged tonsils and minor rheumatic conditions were found, many young children were tired by the long journey and instead of rosy cheeks they were pale and anaemic. Nutrition was not above the average. In the dales the children tended to be of the lean kind but rather above the average height, a characteristic of the fell folk descended from Norse ancestors—tall, lean, long limbed, with a long swinging gait, but capable of enduring long days after sheep on the fells. The endurance and hardiness of the fell folk is typified by their sports of fell racing or fox hunting, following the hounds on foot over fell and dale from morn to night, a day's hunting often involving a tramp of 30 miles over the tops and down into the valleys.

In spite of a somewhat disappointing showing on medical inspection, attendance at school was surprisingly good. In isolated rural schools an attendance of 100 per cent. for the week was not uncommon. In those days, attendance shields were awarded each year to the school with the best average attendance. The schools were divided into two classes for this purpose, those with an average of more than 40 on roll and those with less than 40. Year after year with remarkable consistency, Buttermere School won the attendance shield for the smaller schools with a remarkably high average attendance of well over 90 per cent. for the year.

Travel 40 years ago was not so easy as now and a journey from the remote valleys even to the neighbouring market town was an event in the life of the children. Many rarely travelled further than to the village and its school. It was in Buttermere that I came across two brothers, one of whom, aged seven, had never seen a train, while his brother, aged nine, had seen a train but had never been in one. Many of the children in the remote dales had never seen the sea.

The dialect in the rural areas was at first often difficult to follow. In place names there is a peculiar habit of transposing the letter R making Burgh, Brugh, or Tor, Tre. There were also local terms to describe illness or rashes. Two words in common use to describe rashes, particularly those of a vesicular type, were interesting. Water-jags was applied particularly to chicken pox, herpes and urticarial rashes and was very descriptive. In other areas the word Hives was used, a word stated by Webster to be of uncertain Scottish origin and applied to urticaria, chicken pox or herpes or even croup.

The Contrast of the Mining Area

Rural children as a rule were clean, plainly but well clothed and shod in stout clogs which were essential for the rough roads and wet tracks many had to use. In the urban mining areas of the west coast, the population was rougher and less self respecting. A large proportion of the male adults around Whitehaven and Maryport were engaged in coal or ironstone mining. They were not of native stock but the descendants of immigrants, many from across the Irish Sea. Their physique, standard of hygiene and morals were entirely different from those of the dales folk; in some areas they were almost subhuman. Uncertainty and irregularity of employment and a less settled background and way of life no doubt accounted to a great extent for their lower standards. It was in these areas that uncleanliness, poverty of clothing and foot-wear and verminous conditions were more common. It was in one of the mining areas that the first surprise inspection for verminous conditions was made. The school selected was in the heart of the ironstone mining district during a period of trade depression in 1911. All the children in the infants' department of the school were examined for the presence of head and body vermin and just over 30% were found to be infested with head or body lice. I have a vivid recollection of the vest of one child which had on it a patch about the size of the palm of the hand so crowded with lice that it suggested the pile of a carpet. Exclusion notices were made out for all the verminous children, handed to the head teacher and before the school closed at the end of the morning session I was in a train leaving the town. I was later informed when I returned to the school some months later that during the afternoon it was besieged by a crowd of irate mothers and fathers out for blood, who might have lynched me had I been available.

Section 122 of the Children Act 1908 empowered a local education authority to authorise any person to examine children in a public elementary school and if the child was infested with vermin or if his clothing was foul and filthy to require the parent to cleanse him within 24 hours. Failing this, the officer might remove the child to suitable premises and detain him until cleansing had been effected. If after he had been cleansed he was again allowed to become verminous the parent was liable on conviction to a penalty of 10s.

The penal clause of this section was of no assistance except in urban areas where a cleansing station existed or could be provided. In the rural and smaller urban areas there could be no provision for the cleansing of children of indifferent parents.

Section 12 of the same act provided that a parent neglecting a child so as to cause unnecessary suffering or injury to health was liable to a penalty on conviction. As it was impossible to proceed under Section 122 with the parents of habitually verminous children an attempt was made under Section 12. A child who was habitually neglected, malnourished and verminous to such an extent that he had impetigo, enlarged cervical glands and secondary anaemia was selected and a summons under Section 12 obtained against the parents. The case was taken to court but never heard as the clerk to the magistrates ruled that the summons was bad as we had commenced our inspection of the child under Section 122 and had not continued with that Section but had switched over to Section 12. The local education authority did not feel inclined to contest this decision and we had to continue turning the same neglected and verminous children out of school each time we examined them and nothing was done by the parents to improve the condition. In urban areas some authorities pursued verminous children so relentlessly and excluded them from school on each occasion that they were able to institute proceedings against the parents on account of irregular attendance but in many of these cases the penalty imposed was a fine of 2s. 6d.—not very effective.

After medical inspection had been going for two or three years it was possible to assess the amount of remediable illness among school children and the necessity of providing treatment was realised. By 1910 some form of treatment was being provided in the larger urban areas. Following up of children found to be defective was almost universal by then, while in some areas active steps were being taken to remedy the more obvious defects. Local education authorities were contributing to voluntary hospitals in return for treatment provided. Tonsils and adenoids were being treated in hospitals on payment of an annual grant or a subsidy in respect of each case; ophthalmic surgeons, whole-time or part-time, were being appointed and glasses being provided, dental caries was receiving attention and ringworm more prevalent than now, was being treated by drugs and by *x*-rays in clinics or at hospitals.

The Local Education Authorities (Medical Treatment) Act 1909 made it obligatory on the local education authority to charge the parent for any treatment provided for a child a sum not exceeding the cost of treatment, but provision was

made for the remission of the charge if the parent was unable to pay. It was soon realised that the cost of assessing and collecting the payments amounted almost to as much as was collected. Insistence on assessment declined and parents were expected to pay if they could. Payment for the treatment of minor ailments at the clinic was met by a collecting box in the clinic, which the parent rarely saw, or a nominal flat rate. For many years a flat rate of 1s. per case was requested before complete dental treatment was made. This had the result of making some parents imagine that they had paid in full for the treatment and wish to suggest the amount and type of treatment they desired to have carried out. The amount recovered in this way was so small that the pretence of payment was gradually discontinued and, with the universal provision and extension of clinics, all treatment was ultimately provided free of cost.

B.C.G. AND ALL THAT *

By R. L. MIDGLEY, M.D., M.R.C.P.,
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I suppose that the first thought to enter anybody's head when he learns that he is to be called upon to occupy the presidential chair of this or any other branch of the Society is, "What can I talk about in my presidential address?" For me this was a particularly serious question because the National Health Service had recently come into being with all its disruptive implications for the tuberculosis service. In those moments between sleeping and waking when phantasies fill the mind I once imagined that the medical officer of health could be likened to a heavy draught horse pulling on a stout rope which was the Tuberculosis Service, and clinging to the other end was a man representing the nation, struggling to free himself from a morass called tuberculosis. In spite of much slipping and floundering, it was clear that he was slowly being extricated, when on the scene there appeared the Minister of Health in the guise of a teamster, bringing with him another horse called Regional Hospital Board. This encouraged the unfortunate victim, who hoped that both horses would now pull on the rope and save him more quickly. To his dismay he saw the teamster begin to unravel the rope, leaving one strand attached to the first horse, and harnessing the other to the second horse. Moreover, he was having some difficulty in making his two horses pull in the same direction. There seemed a real danger that one or both of the weakened strands would break, and that the man would fall back into the slough from which he was so painfully climbing. By now I was wide awake, and set about my daily tasks with a heavy heart. My gloom was deepened when, in a little while, I learned that it was considered necessary to form a special group within the British Medical Association as an additional protection for the interests of tuberculosis specialists. This, I thought, is the end of the old order, and what better title could I find for my presidential address than the valedictory speech of the Roman gladiators, "We who are about to die salute you."

Then, when all seemed lost, there came as by a miracle the B.C.G. vaccination campaign, the one thing that could bring together again that which should never have been divided. Here, above all the bickering, was a clear call that all could answer. A chance was given to the medical officer of health to show that, in the case of tuberculosis as in other spheres, prevention is better than cure. The responsibility for preparing the scheme of operation was his, but the means of implementing it were the the new chest physicians, the erstwhile tuberculosis officers. Was there ever so heaven sent a chance for full and fruitful co-operation? Some of us in the tuberculosis field had had the possibilities of B.C.G. in mind for a long time. In Paris, before the war, we had had the opportunity of seeing how Guérin, in spite of Lübeck and other discouragements, was carrying on the work of his eminent predecessor. We had read of the results obtained in Scandinavia and among the primitive races in the U.S.A. and Canada. When first we raised the question in this country, all the old snags were trotted out, and we were told that conditions here were not comparable with those elsewhere. Nevertheless, and having due regard to all the difficulties, we felt that so long as meningitis and other serious forms of the disease continued to take their annual toll of the children in tuberculous households, we were failing in our task of controlling the disease, and that something more must be done. It was at one time hoped that streptomycin might have been an answer to some of the problems, but so far this agent has proved to be relatively a failure, and is at best only an attempt to close the stable door after the horse has bolted.

At length we persuaded the Minister of Health to make available supplies of B.C.G. for trial in this country, and to authorise local authorities and regional hospital boards to prepare schemes for its use in their respective spheres. The use of B.C.G. for hospital personnel does not concern us this afternoon, and I will not discuss it further. When its application to contacts in tuberculous households was discussed at conferences of medical officers of health and the chest physicians, certain difficulties at once became apparent, some of concern to all of us, some more particularly to those working in rural areas. The first was to assess the numerical size of the undertaking, including a division into the main age groups of infants, pre-school age children, school children, and adolescents who had left school. This can only be done by tuberculin testing, but already there should be enough information to enable a reasonably accurate estimate to be made.

Ideally, all children should be tested, so that an unknown source of infection may be brought to light, but in practice this is scarcely feasible, and the best use can be made of the limited time which can be spared by concentrating on households already known to have a tuberculous member, even if this is not an open case. I feel that in rural areas implementation of the Ministry's recommendation that the testing and recording of the results should be done only by the chest physician places too heavy a burden of time in travelling, either on him or the parents and children. The initial jelly test could quite well be carried out by a health visitor after a short course of instruction; the subsequent intradermal testing of the negative reactors is perhaps better done by the chest physician, though he might get some help from the health visitor in the recording.

Segregation of Children or Removal of the Source of Infection

We have then to consider arrangements for carrying out the vaccination of those found to be at risk, and what will be necessary will to some extent depend on the circumstances of each individual case. In the main, however, it will come down to the question of segregation. Where an infant is expected, it should be born where it can be properly isolated, and vaccination carried out forthwith. In all other cases a period of isolation from the source of infection is necessary before vaccination, as well as after vaccination. As you all know, the total period is usually about 12 weeks.

There are two ways in which this separation can be carried out. We can remove either the contact or the source of infection. The first course involves the provision of suitable residential accommodation for the different age groups, or in trustworthy cases boarding out with friends or relatives. It may involve the splitting up of families and interfere with education or other occupations; it also does nothing to deal with the source of infection. It is, moreover, a costly business.

In my view the second course is much better, and the hospital service could contribute greatly to the success of the campaign if it would arrange a suitable priority of accommodation for selected cases. These could be admitted to sanatoria, or tuberculosis wards of general hospitals as at present. Some will be found to respond to treatment and become non-infectious. Some advanced cases unsuitable for home nursing will have to be retained, though a proportion of these demand to return home for their latter end, when they are usually too ill to take proper precautionary measures and are a menace to their families.

The majority are in the intermediate group of chronic ambulant positive cases, and for these I would suggest that

* Presidential Address to the West of England Branch, Society of Medical Officers of Health.

three months or so in a sanatorium will improve their physical condition as much as may be, and at at the same time they can be educated in the mode of life best fitted to keep them as well as possible and taught a proper precautionary routine. During this time the contacts are being vaccinated, and we shall have done all that is possible for all concerned. This arrangement has the merit that it involves no extra cost, and may in fact prove to be a good economic measure, in that it will allow of a more rapid turnover of tuberculosis beds and go some way towards reducing the waiting lists. A start can be made with those families whose tuberculous member is already in a sanatorium, perhaps being retained indefinitely because of home conditions. In actual practice I imagine that both methods of segregation will be found to have their usefulness.

The Risk of Over-confidence in B.C.G.

It is my experience that little difficulty is being encountered in persuading tuberculosis parents to avail themselves of vaccination for their children, rather is the difficulty going to be to cope with the demand. I do, however, foresee one great danger, namely that a state of over-confidence in the efficacy of B.C.G. may arise, with a corresponding slackening in the carrying out of precautionary measures. It is likely that the immunity acquired as a result of natural infection is at least as good as that acquired by vaccination, and we all know that the immunity resulting from natural infection does not guarantee against the subsequent development of tuberculous disease. Let us beware, therefore, lest our patients should come to think that B.C.G. vaccination for their children is for them an easy alternative to the unremitting discipline of precautionary measures, and that a positive skin reaction is a passport to a tuberculosis-free life.

PUBLIC HEALTH IN RELATION TO AVIATION *

By Air-Commodore J. M. KILPATRICK, O.B.E., M.B., D.P.H.,
Deputy Director-General of Medical Services, Royal Air Force

I have chosen to speak on this subject partly because I have had some experience of the factors involved, partly because it will in some measure be a problem of interest to all Services, and partly because survey of the present situation may be useful as a base-line from which to evaluate future developments. Opinion on the risks and appropriate counter-measures will change, I am sure, with changing world-wide organisation for prevention of epidemic disease. At present, the tendency is greatly on the side of caution.

About 1759, Dr. Johnson wrote " Rasselas ". One of his characters says, " If men were all virtuous, I should with great alacrity teach them all to fly. But what would be the security of the good, if the bad could at pleasure invade them from the sky? " Dr. Johnson was, of course, thinking of physical aggression by airborne forces; his character feared " the sudden descent of some of the naked nations. . . ." But from the point of view of this address the " good " living their peaceful lives on the ground are at risk from the airborne " bad " if the armament of their aircraft is no heavier than the virus of smallpox or a few exotic mosquitoes.

The Risk

It has been said that the measure of distance is time, and in this lies one of the major differences between the risk to the public health from aviation, and the risk from surface transport. In travel by ship, incubating illness is likely to reveal itself before the end of the voyage, but aircraft can cover vast distances within the incubation periods of major epidemic diseases. Theoretically, therefore, a country with a susceptible population far from an infectious focus may receive without being aware of the fact, persons apparently well, but harbouring infection.

Again, in order to reach a foreign country, surface transport must usually follow a well-defined track, and physical barriers to passage of infected vehicles can be set up. Physical barriers cannot, however, be raised against aircraft, and herein lies another difference from surface transport.

Air transport, like other forms of transport may harbour persons suffering from frank illness, infective insects, or infected food. Freight may bring risk to humans, animals or growing crops. The sanitation of the aircraft itself could give rise to risk to the health of passengers; space is limited, weight must be cut down, and sanitary facilities cannot therefore be elaborate.

Appraisal of the Risk

I have, so far, painted in the dark parts of the picture. We must undoubtedly take account of these factors, but we must not let theory run away with common sense. Otherwise, hypnotised by the risk, we should place so many hindrances in the way of air travel that we should deprive ourselves of its speed which is its chief merit. There must be control of the risk, but control must not interfere needlessly with rapid movement. Some form of international confidence is thus essential to ensure that air travel is not deprived of speed.

International Sanitary Control

The International Sanitary Convention for Aerial Navigation is the instrument of sanitary control of air transport. This Convention was agreed in 1933, and again in amended form in 1944. Its administration is now in the hands of the World Health Organisation, and most countries of importance in air travel have acceded. The Convention does not seek to regulate aircraft within the bounds of their own national territories; also, it must be remembered that signatory powers may on occasion decide that some special risk demands precautions beyond those agreed as effective in the Convention. But the Convention in general does protect the public health while preserving the mobility of air travel.

The text of the Convention, while dealing generally with transference of infection, makes detailed provisions for the control of five diseases of great importance to public health. These are plague, cholera, yellow fever, epidemic louse-borne typhus and smallpox, and are usually known as the " Convention " diseases. The Convention recognises the two peculiar risks from air travel—the risk from the individual who may be incubating disease, and the risk of aircraft, possibly infected, arriving without check or hindrance in the heart of a country.

Provisions are also made to deal with persons suffering from frank disease, with transference of insect and animal pests, with carriage of infective material and with discharge of infective material from aircraft in flight. But, and this should be noted, the Convention deprecates strongly the enforcement of measures beyond those it prescribes; an appreciation has been made of the risks and the Convention contains the arrangements to cover these risks. It recognises that additional measures can only hamper air travel without adding to security.

The Human Risk

Consider the incubation periods of the Convention diseases:

Plague ...	6 days	Typhus ...	12 days
Cholera ...	5 „	Smallpox ...	14 „
Yellow fever ...	6 „		

Now consider the time taken by aircraft to travel to distant points. A passenger from India to China could arrive at his destination within two days of departure; he may be infected with cholera, but may be apparently well on arrival. A passenger from the yellow fever endemic zone in Africa could arrive in India one and a half days after setting out, and could develop the disease well after his arrival in India.

In practice, known cases of transference of serious disease are few. Smallpox appears to be the greatest risk, and cases have developed in this country after arrival by air. Some protection has doubtless been given by the type of passengers using air transport. In the main they have been drawn from educated classes who are normally little exposed to infection, or who are intelligent enough to adopt measures of protection.

Control of the Human Risk

The factors of importance to a health authority in controlling the human risk are. I think, as follows:—

* Presidential Address to the Services Hygiene Group Society of Medical Officers of Health, London, December 16th, 1949.

(*a*) Survey of aircraft and passengers immediately on arrival.

(*b*) Knowledge of centres of infection abroad.

(*c*) Information on the exact location of each passenger for the fortnight preceding arrival (given in a prescribed form by each passenger).

(*d*) Interrogation of each passenger to confirm statements made, and to note any obvious signs of illness. This can be done by a nurse or nursing orderly.

(*e*) Examination by a medical officer of passengers from infected areas, passengers who appear to be ill or passengers who complain of illness. Disposal to isolation hospitals if appropriate.

(*f*) Supervision of known or suspected contacts of infectious disease, by "surveillance" not involving restriction of movement, or by "observation," involving isolation.

(*g*) Knowledge of the immunisation state of each passenger.

Air Frontier Posts

It is clear that control of the human risk can be exercised only if aircraft arrive at places equipped to carry out effective survey. A country has the power to require aircraft to make their first arrivals and their final departures at specified airfields, thus setting up what might be termed "air frontier posts". These take the place of the physical barriers which could be raised against surface transport. These specified airfields are "authorised" airfields, and must have facilities for medical inspection. A country can declare also "sanitary" aerodromes. These are authorised aerodromes which, in addition to having facilities for medical inspection, must have at disposal at least one medical officer and one sanitary inspector. They must have facilities at hand for isolation and care of the sick, and, separately, for isolation of contacts. They must be equipped to examine pathological specimens, or to collect such specimens for examination. They must possess means to carry out disinfection, deratisation and disinsectisation. They must have a wholesome supply of drinking water, and adequate means for disposal of sewage and waste. Thus it is in the power of a country to guard itself immediately from infection casually introduced.

Immunisation

Specific immunisation has acquired much significance in the control of the Convention diseases. Nobody will deny its importance in the proper circumstances, but it must be recognised always that immunisation alone will not fully protect the public health. The application of well-tried sanitary principles must be made in addition. The use of immunisation is attractive. It is a positive and a precise measure. But our knowledge of prophylaxis by vaccines is far from complete, and there is a tendency to expect more from a vaccine than, in fact, it can give. Excessive faith in vaccines may therefore be dangerous, leading to neglect of sound hygiene.

Immunisation against yellow fever and smallpox rightly holds a high place in the control of these diseases. Yellow fever vaccine, especially, has proved most efficient. But vaccines so far at our disposal against cholera, typhus and plague are less reliable. The Convention prescribes set forms for recording immunisation against the Convention diseases, except in the case of plague. The text contains no reference to plague inoculation as a measure applicable in its control.

A state requiring certificates of immunisation is entitled to know that the process has been carried out by qualified operators with potent vaccine, and within time limits to ensure establishment and maintenance of immunity. For this purpose, stereotyped forms of immunisation certificate are laid down. Special care is given to yellow fever vaccine. This vaccine is delicate, and is markedly sensitive to heat and to antiseptics. It is difficult to manufacture. Therefore the World Health Organisation has surveyed vaccine production, and has approved material made at a limited number of centres. The vaccine produced by the Wellcome Institute in this country is recognised as effective. Each state must nominate to the World Health Organisation the agencies approved for administration of Y.F. vaccine and for issue of certificates. Certificates given by other agencies are invalid.

I mentioned that certificates of immunisation were valid within time limits, to be between agreed periods of maturation and waning of immunity. These periods are as follows for the four vaccines recognised :—

Cholera	...	from 7 days to 6 months.
Yellow fever	...	from 10 days to 4 years.
Typhus	...	not more than 1 year.
Smallpox	...	from 14 days to 3 years.

When we consider these intervals it will be seen that it is not possible to travel by air at short notice to countries demanding immunisation certificates as a condition of entry. Those likely to travel by air would be well advised to maintain immunity, and to be in possession of valid certificates.

The requirements, broadly, are as follows :—

Evidence of vaccination against smallpox is required by most countries. Those likely to go through tropical Africa, including the Sudan, or through Central or South America should possess yellow fever inoculation certificates. Those likely to travel to or through India or Pakistan should possess cholera inoculation certificates. Other certificates are seldom required, but for personal protection it is wise to have immunisation against the enteric group. Two countries at present require certificates of typhoid inoculation from immigrants. The would-be traveller, therefore, has under present conditions to suffer some inconvenience and considerable resentment. If it is any consolation he can cling to the thought that he at least is making a direct contribution to the health of nations.

Pests

Over the years many varieties of insects, and indeed reptiles and animals have been recovered in aircraft—mosquitoes, bedbugs, fleas, lice, tsetse flies, horseflies, houseflies, cockroaches and insects harmful to growing crops or stored grain. Rats, mice, and on occasion, snakes have been unwelcome stowaways. In practice the mosquito and the rat are likely to be of most significance directly to the public health. Some experienced observers consider that pests of agricultural importance form a more serious risk than those of importance to the human being.

Mosquitoes

Much attention has been given to the transference of mosquitoes by air, and experiments have been carried out to define the risk. In one investigation, stained mosquitoes were released freely in an aircraft at the beginning of a journey lasting 80 hours, and including three night stops. No special measures to retain the mosquitoes in the aircraft were adopted. At the end of the journey, a significant number of mosquitoes, recognisable by the stain, was recovered alive. It has been found that mosquitoes can resist extreme exposure to high altitude and low temperature. On the other hand they are susceptible to high temperatures and to excessive vibration. It is easy to understand the concern shown by countries at risk from mosquito-borne disease.

The risk from the carriage of mosquitoes is not only that infected mosquitoes may be imported. Uninfected mosquitoes with a high capacity for disease transmission may be brought into, and may establish themselves in a country previously harbouring only feeble vectors of disease. A classic instance is the importation of *A. gambiae* into Brazil. Malaria which had previously grumbled along quietly suddenly flared into alarming and most serious epidemic proportions as these foreign mosquitoes, most efficient vectors of malaria, established themselves. In this case, mosquitoes were almost certainly carried over in a ship, but a similar occurrence involving aircraft could be imagined.

India and Pakistan are countries apparently at great risk from mosquitoes ; the disease feared is yellow fever which has not so far attacked the Indian subcontinent. Perhaps some protective factors of which we are not yet aware operate. But as we understand the situation at present we must be impressed by the following considerations. India and Pakistan have large non-immune populations. Conditions are such that it might be difficult to detect and control early cases of yellow fever. Potential vector mosquitoes are indigenous. Climatic conditions

are favourable to spread of the disease. The train seems set, and apparently only needs the match in the form of infected persons, or infected Aedes. Against this we can set the fact that aircraft have for years been flying from Africa to India, and as far as we know, yellow fever has not yet occurred in India.

But a public health problem clearly exists and Indian regulations to prevent importation of the disease are stringent. Aircraft arriving from the West are all suspect of yellow fever. They are cleared only if they carry documentary proof that they have not traversed a yellow fever endemic area within the preceding four months, or since disinsectisation by an approved authority, using an approved method.

Disinsectisation

Much work has been, and is being carried out on practical means of clearing aircraft of insects. The process must be thorough, and aerosol spraying is used exclusively. The application is usually by the small hand carried aerosol " bomb," usually operated by the vapour pressure of a liquid with low boiling point. There is argument between the protagonists of residual and knock-down insecticides. India at present demands a knock-down element in the insecticide used.

Attention has been given to " built-in " spraying apparatus in aircraft. This is attractive to the health authority, because aircraft could be sprayed in flight and recording charts could be arranged to show the time and duration of spraying. Also spray could always be arranged for the vulnerable points. But such installations mean added weight and an added servicing commitment, and may not fit in with the primary role of particular aircraft.

Rodent Pests

Rodents have been found from time to time in aircraft. The danger from rats is not only that they may transmit disease ; they may immediately endanger the aircraft structure as they have been known to gnaw insulated electric cables or other installations. To prevent infestation we must depend on well-known principles—deny food and bedding, and prevent access. Aircraft must be kept clear of food scraps and rubbish. Ladders and loading ramps must be removed, and doors and windows must be shut when work is not being done. The use of bright lights when night loading is carried out, have been advocated, as have been white-painted ladders and ramps. Most important, however, is the elimination of rat infestation on airfields themselves.

Treatment of established rat infestations in aircraft cannot usually be precise. In my experience, gassing with cyanide has not proved satisfactory in certain landplanes, chiefly because it is impossible to seal off completely all openings into the wings, or to direct the gas to all possible hiding places. However, infestation is not usually heavy, and baiting and trapping have both proved satisfactory.

Trapping has been successful in ridding aircraft of mice.

Sanitation of Aircraft

Arrangements for passengers in aircraft are conditioned by limitations on space and weight. Thus water supplies, cooking arrangements, food storage, lavatory and latrine accommodation, cannot be extensive or elaborate. The task of the aircraft designer is intricate, and is complicated by the fact that most waste materials must be retained in the aircraft. The Convention forbids the discharge from an aircraft in flight of anything capable of causing an outbreak of infectious disease. Other regulations forbid discharge of anything likely to cause injury to those on the ground.

There must be efficient arrangements for ensuring the purity of water supplies before being taken into aircraft, for few aircraft storage systems are suitable for sterilisation of their contained water. Much of the food supplied in aircraft is precooked, and must be prepared under clean conditions to prevent elaboration of the agents of food poisoning during storage. Food waste must be collected and held in the aircraft until a landing is made. Certain countries, fearing importation of foot and mouth disease, demand that food waste should be removed from aircraft only in covered metal containers capable of being sterilised by heat.

The small cabin space available favours transference of airborne infections from passenger to passenger, and much attention has been given to ventilation, although indeed, passenger comfort is considered more than the imponderable aspect of airborne infection. The problem of ventilation is complicated—how, with the lightest of machinery, to provide sufficient changes of air in a small space without causing draught : how to keep the temperature and humidity of the air constant against rapid and wide changes of external temperature : how to do all these things while artificially increasing the pressure of air in the cabin. On the whole, designers have been fairly successful ; the most usual defects are found in the " layering " of air by which air at head level is hot and air at floor level is cold, and in excessive dryness of the cabin atmosphere.

Closets in aircraft present many difficulties. Because the aircraft system must be a conservancy system, some form of chemical closet is usual. In the simplest form of bucket with deodorising fluid, splashing occurs with aircraft movement. In the more elaborate types with pans flushed by the closet contents of deodorant and disinfectant fluid plus the excreted material mixed with it, the structure must be so light that it is difficult to make efficient moving parts. The ideal closet for aircraft has not yet emerged.

Conclusion

I have given, very superficially, some of the problems set to public health workers by air travel, and some of the arrangements to deal with the risks. It will be noted that much emphasis is laid on measures taken by countries to prevent importation of infection. This is a second-best method ; infected men, insects, materials, will sooner or later pass the finest screen ; undue stringency of measures will surely lead to deliberate evasion.

International control of disease is seen eventually as the definition of endemic areas and concerted attack on endemic foci. When international confidence exists in the efficacy of this approach, but not till then, we can expect relaxation of vexatious requirements by individual nations, and the freedom of air transport to exploit its speed.

The Public Health Laboratory Service

Since the Public Health Laboratory Service was placed on a permanent basis after the war, the Medical Research Council have continued to administer it as agents for the Ministry of Health. It has been decided that the Council will, with certain reservations on matters of board policy, now delegate this function to a Public Health Laboratory Service Board, composed in the first instance as follows : Dr. A. Landsborough Thomson (Chairman), Prof. S. P. Bedson, Dr. C. Metcalfe Brown, Dr. A. N. Drury, Sir Percival Hartley, Sir William Wilson Jameson (*ex officio*), and Dr. A. A. Miles, with Dr. W. H. Bradley as observer from the Ministry of Health.

(The Emergency Public Health Laboratory Service in England and Wales was organised by the Medical Research Council before the war, at the request of the Government, and was brought into being in 1939. Statutory authority for continuing it on a permanent basis was given by Section 17 of the National Health Service Act, 1946. The Director of the Service is Dr. G. S. Wilson.)

The University of London announces a lecture on " The Use of Antibiotics in the Treatment of Infectious Diseases with Special Reference to the Effects of Aureomycin and Chloramphenicol " to be given at St. Mary's Hospital Medical School (Wright-Fleming Institute Lecture Theatre), Paddington, W.2, by Prof. Perrin H. Long, M.D., F.R.C.P., Professor of Preventive Medicine, Johns Hopkins University School of Medicine, at 5.30 p.m., on Tuesday, May 23rd, 1950. The chair will be taken by Sir Alexander Fleming, M.D., F.R.C.P., F.R.C.S., F.R.S., Professor Emeritus of Bacteriology, University of London. Admission free, without ticket.

POLIOMYELITIS AND TONSILLECTOMY*—I

By J. ALISON GLOVER, C.B.E., M.D., F.R.C.P., D.P.H.,
Temporary Medical Officer, Ministry of Health, and formerly Senior Medical Officer, Ministry of Education

Judgment is difficult and experience fallacious; the physician should at least do no harm.—Hippocrates, 1st Aphorism.

Before 1947, notifications of poliomyelitis kept for many years nearer 500 than 1,000 annually, with 1,500 in 1938 as the highest ever recorded in a year.

In 1947, there were 8,500. In 1948, which it had been hoped would have proved to be an inter-epidemic year, there were 1,860 notifications, while in 1949 there were 5,969 notifications and 581 deaths. Moreover, though winter seems normally to be a close season for the disease, the decline since the peak in October has been so gradual that, in the first six weeks of 1950, notifications have averaged over 50 per week. You will appreciate how high this is for a winter period when you recall that before 1947 the highest figure recorded in any week had been 82 in the autumn epidemic of 1938.

Notifications in the United States, which have consistently been at a higher level than in the United Kingdom, in 1949 rose to some 42,000, compared with 21,000 in 1948 and 25,000 in 1946, which was the year with the previous highest number.

Age distribution has moved to the right, the bulbar type seems more common. These ominous facts have a direct bearing on our subject, for it is generally considered that the number of symptomless carriers greatly exceeds that of clinical cases, even by a hundredfold or more. Thus the 6,000 notifications in England and Wales in 1949 might well mean that there have been 600,000 symptomless carriers, mostly temporary, scattered through the country.

Another factor making this discussion timely was the great increase in tonsillectomy in 1948 (Glover, 1950) and the even greater increase threatened by the drive to overtake the long waiting lists which almost all hospitals now have, of children for whom tonsillectomy was advised months or even years ago. The hospitals of a single Metropolitan Hospital Board are said to have an aggregate list of 15,000 children waiting admission for tonsillectomy.

The Memorandum by medical officers of the Ministry of Health, published in the medical press on July 26th, 1947, stated that there was "overwhelming evidence that, in times when poliomyelitis is prevalent, recent tonsillectomy increases the risk of a child's contracting poliomyelitis, particularly of the bulbar type."

This evidence was summarised in the Ministry's *Monthly Bulletin* of July, 1948, and, as my time is so short, and most of you have had that *Bulletin*, I shall not weary you by again summarising the work of Fischer, Sabin, Aycock, Pedersen, Francis, Lucchesi, J. A. Anderson (Ohio), and the other earlier American writers on this subject.

I shall, however, recall one or two. First, here is a diagram (not reproduced) after W. L. Aycock (1942) showing some 150 cases, in which poliomyelitis occurred after a recent tonsillectomy. This shows that there is a very large high proportion of bulbar cases among those occurring within 30 days.

The bulbar cases arising within five to 21 days of the tonsillectomy, at a time corresponding to the usual incubation period, must, I think, be specifically related to the operation. Secondly, here once again is the tragic story of the "K" family at Akron, Ohio, so admirably described by Francis and his colleagues (1942):—

> On August 22nd, 1941, five of the six children of the "K" family of Akron, Ohio, had their tonsils and adenoids removed by dissection under ether, all by the same team. Between nine and 14 days later all these five children developed severe poliomyelitis of bulbar type, and three died. The parents, and the sixth and youngest child, who had not had tonsillectomy, showed no signs of illness, although poliomyelitis virus was isolated from the child's stools. The virus was also isolated from the stools of two young cousins of the "B" family, who lived in a town 50 miles away. One of these "B" children had had a mild attack of bulbar poliomyelitis less than three weeks after a tonsillectomy which was performed in July. At the time of this tonsillectomy two of the "K" children, the youngest and one of those who later died, were staying with the "B" family, and returned home three days later. These two "K" children were probably infected during their stay with the "B" family and in turn infected their brothers and sisters when they returned home. Tonsillectomy precipitated bulbar paralysis in five children of the "K" family and one child of the "B" family who had had symptomless infections at the time of operation, and thus "transformed a mild subclinical infection into a severe and fatal disease."

It is strange that some critics are able to regard such a sequel as "coincidental."

J. A. Anderson (1945) showed what may happen when tonsillectomies are not suspended during the prevalence of poliomyelitis. He pointed out that, in Ohio epidemic in 1943, there were notified 261 cases (including 232 in children 3 to 16 years), and despite this fact tonsillectomies were carried on seemingly as usual, 1,411 in July, 2,111 in August and 677 in September—a total of 4,199 in these three epidemic months. Seventeen of these tonsillectomised children (0·405%) developed poliomyelitis within 30 days of operation, all of the bulbar or bulbo-spinal type.

In this child population the recently tonsillectomised attack rate (0·405%) was more than two and a half times greater than the rest (0·152%) and the recently tonsillectomised child had a 16 times greater chance of getting the bulbar type. Of the patients in hospital 31·6% had the bulbar or bulbo-spinal type of disease, and 46% of the bulbar cases followed recent tonsillectomy.

The first cases described in this country were two fatal cases of bulbar paralysis occurring during the epidemic of 1938, in girls aged six and 14, with onset four and ten days respectively after tonsillectomy. They were reported by D. M. Anderson and J. H. Dixon (1939). Both patients died 12 days after tonsillectomy.

In the epidemic in New South Wales in the same (1938–39) year, Helms reported that of 711 patients, seven had had the operation seven to 22 days before onset. Of the seven, three had the bulbar type and two others paralysis of the palate.

Those who doubt the validity of the advice in the memorandum will no doubt emphasise the rarity of cases in which poliomyelitis followed recent tonsillectomy in the epidemic of 1947 in this country. The questionnaire sent out to hospitals by the Ministry of Health in October, 1947, did not include a question on tonsillar state, but there is little doubt that such cases were fewer than might have been expected from American and Canadian experience.

This good fortune seems in large measure owing to the fact that British medical opinion was alive to the danger through knowledge of the American experience, to the advice given in the memorandum and to the previous warnings in the *B.M.J.* in 1939.

Recently a second questionnaire to hospitals has been issued by the Ministry, relating to those cases which occurred in 1949. This questionnaire includes the question of tonsillectomy.

Replies are coming in rather slowly and analysis is unusually difficult, as one and the same patient may have been in two or three hospitals.

Of the 1,728 cases of 1949, so far (February 20th, 1950) reported and analysed, there are five in which the disease undoubtedly followed recent tonsillectomy. Of these five, four were bulbar, and three of the patients died. In one other fatal bulbar case, in a child of six, the date of tonsillectomy was not given. In another non-fatal bulbar case, the tonsillectomy was a year before, and in a third case tonsillectomy had been done four months previously, but no further particulars are given.

Five certain cases, together with two or three doubtful ones, out of 1,728 seems to suggest that the risk is a small one. But of what kind this risk may be, we can see not only from the "K" family history in Akron, but from an instance nearer home, in London.

Mr. and Mrs. L. had two sons, aged seven and four years, both healthy active boys. They had, however, been put on the waiting list for tonsillectomy a year previously, since which time they had

* Opening papers at a discussion held by the Southern Branch, Society of Medical Officers of Health, February 24th, 1950.

been in good health. They were both tonsillectomised on August 9th at a general hospital, and all went well until the 17th. The elder then seemed to develop a bad chill, and his mother having had a cold, it was thought he might have caught this. A doctor was consulted, and the next day, the 18th, the younger boy also sickened. Neither improved, and on the 20th the doctor called the surgeon, who had operated, into consultation. Both boys were removed to an isolation hospital the same afternoon, and died the same evening.

Except by regarding the months of the usual prevalence of poliomyelitis as a close season generally for tonsillectomy for some years to come, it is difficult to see how this tragedy could have been avoided. The Ministry's memorandum specified "prevalence *in an area*," and in 1949 the rise in incidence was later and less pronounced in London than in England and Wales and had scarcely begun in the London returns of the first week of August.

The Doubters

After 1947 some doubt and criticism was expressed about the causal relationship between tonsillectomy and poliomyelitis, particularly in America. Some like Wimborne and Stainsbury (1947) suggested

"that the danger of contracting poliomyelitis following recent tonsillectomy is minimal," but they admitted that if the patient "does contract the disease, it is more likely to be the bulbar type, rather than the spinal, a fact which is borne out by previous reports," and that in their series 16 of the 18 patients who had the bulbar type had been tonsillectomised, though none had had the operation less than six months before.

C. H. Nau (1949), while concluding that "Most reporters agree that tonsillectomy (recent or remote) does not predispose to poliomyelitis," nevertheless goes on to state:

"Many reporters have shown that if the disease does develop, the patients' chances of contracting the severe bulbar forms are definitely increased, if a recent tonsillectomy has been done.

"In order to avoid the risk of bulbar poliomyelitis, although it is not great—operations on the nose and throat should not be done during epidemic months. However, during non-epidemic years the risk is minimal (one case in 2,000 operations). The risk from November to June is nil."

While Wimborne, Stainsbury and Nau thus appear rather to "hedge," some have more boldly stated that such sequences are "coincidental." D. S. Cumming is one of these, and his opinion seems to have hardened against any policy of postponement since 1947. Then, by questionnaires from 13 States, he found that

Of 2,476 cases of poliomyelitis, 62 (2·5%) had been tonsillector mised within two months of onset, and that the proportion of bulbatype in these 62 cases, which occurred within 60 days of tonsillectomy, was 29·1%, compared with 15·1% in 2,414 cases without recent tonsillectomy.

In 1948, however, he wrote

"When a bulbar poliomyelitis follows a tonsillectomy it is coincidental."

In 1949, having studied reports of over 17,000 poliomyelitis and 35,000 tonsillectomies, he wrote :—

"No definite causal relationship between tonsillectomy and poliomyelitis has been established; therefore I do not believe that tonsillectomy should be postponed indefinitely simply because the summer months are the months during which poliomyelitis is prevalent.

"If, however, there is a distinct rise in the poliomyelitis rate, bordering on epidemic proportions, in any community, all elective operations should be postponed."

Thus it will be seen that even Cumming tends to hedge. But we, as Bacon says, "have better oracles."

In 1948, W. T. Green wrote :—

The increased incidence of bulbar poliomyelitis in patients shortly after tonsillectomy, suggests that since this is the form of the disease with the highest mortality, tonsillectomy performed during a poliomyelitis epidemic or even *when endemic cases are occurring*, is, under ordinary circumstances, undesirable.

The ninth edition of Ballenger's standard American textbook (13) (1947) states

"Statistics show the bulbar or bulbo-spinal type of poliomyelitis occurs from two to three times more frequently within 30 days in tonsillectomised children than in the general population."

"The Control of Communicable Diseases" (Amer. Pub. Health Assoc.), seventh edition (1949), advises the postponement of elective nose and throat operations upon children during epidemics of poliomyelitis.

What are the risks of postponing operation? Ivor Griffithss in 1937, in a series of 4,500 children sent to hospital for tonsillectomy, found no sign or symptoms in 31% save slight enlargement.

In London, despite the greatly lessened number of tonsillectomies in 1947, the numbers of children with otitis media or enlarged cervical glands referred for treatment in that year were less than in 1946, and equal to the lowest ever recorded. The incidence of "other" ear conditions was the same as in 1945 and 1946.

Elsewhere I have shown that drastic reductions in the number of tonsillectomies appear to have no bad influence on otitis media and cervical glands, and in a previous paper (1938) you will find two notable instances. Epstein (1937) has shown that tonsillectomy has better results when done at ages later than those at which the peak of the incidence of tonsillectomy usually occurs. In normal times long waiting list, for tonsillectomy have been common at many famous hospitals, yet we have in the past heard little about their ill effects. The need for tonsillectomy is rarely urgent and, in most cases, the risk to the child's health of postponement is as nothing compared with even a small risk of bulbar poliomyelitis.

Summary

(1) The prevalence of poliomyelitis in 1949, and the high figures of notifications in the first six weeks of 1950, suggest the possibility of another epidemic when the autumn approaches.

(2) In almost all hospitals, there are now long lists of children waiting for admission for tonsillectomy, which may have been advised months or even years before.

(3) One of the obvious precautions seems to be that all children, in whose cases there has been this long delay since the recommendation for operation was made, should be re-examined by the specialist *before their admission*.

In many children, such as those who made up 31% of Griffiths' series, the enlargement of the tonsil may prove to have been temporary. For many other alternative non-operative treatment may prove sufficient.

Re-examination should include consideration of the child's medical history since the original recommendation was made.

During these present years of high poliomyelitis prevalence, a most conservative attitude towards the tonsils should be maintained.

(4) A close watch on weekly notifications should be kept, and any general or local rise in incidence should be at once reported to the hospitals and to otolaryngologists. From mid-July to the end of October should be regarded as a danger period.

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The second paper in this discussion by Mr. Cowper Tamplin, F.R.C.S.ED., D.L.O., is published overleaf.

POLIOMYELITIS AND TONSILLECTOMY*—II

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Thank you for asking me, as a laryngologist, to take part in this discussion. I believe I am partly responsible for being thus punished owing to my having written to an M.O.H. asking him if he could not supply *some* of his school M.O.s with copies of one or two of Dr. Glover's articles on tonsillectomy. I did this in the hope that it might help to stem the tide of the very large numbers of cases sent to us; for if home conditions need attention or *medical* treatment is required, that is not *primarily* the concern of a laryngologist. Might I, therefore, with your kind permission, first say a few brief words on tonsillectomy and adenoidectomy in general?

Remember, we do not go out to find them. All these children are sent to us; the laryngologist is badgered and bombarded by physicians, paediatricians, school M.O.s and family doctors to do *something*. All this propaganda against tonsillectomy is merely a smoke-screen to hide the complete inability of physicians and research workers to provide a satisfactory alternative treatment.

There are those who are biased for or against tonsillectomy; those who wish to snatch at every tonsil they see; those to whom tonsillectomy is almost *anathema*. Both are in a very small minority.

I am sure it is correct to say that the main concern of the great majority of laryngologists when confronted with a T. & A. case is, to quote Macbeth, "How can I conscientiously avoid booking this child for operation?"

In July, 1947, the medical officers to the Ministry of Health issued a memorandum. It was excellent except for the one amazing statement: "There is, however, overwhelming evidence that a recent tonsillectomy increases the risk of a child's contracting poliomyelitis, particularly of the bulbar type." I shall have more to say about this shortly. When polio rears its snake-like head, instead of getting any constructive help from the Ministry, all we get is a negative direction, "Do not operate" or "At your peril," and when it appears to be sinking and we gently enquire whether it is thought to be safe to go ahead again, we are told in words of complete aloofness "That is the responsibility of the surgeon."

Now to test this overwhelming evidence. The most important article on the matter was probably one by Dr. J. A. Glover in the *Monthly Bulletin of the Ministry of Health* for July, 1948, and if I may be permitted to say so, gave opinions which, to the mind of a laryngologist, are far too one-sided. There are 17 references, two are not connected with polio, and of the remaining 15, no less than 14 are American. As for some years I have taken three American journals, I had already read most of them, and contrary opinions are omitted from the *Bulletin*.

Among the omissions, for example:

(1) Aycock says "Because of the numerical considerations, the hazard of bulbar rather than spinal poliomyelitis in tonsillectomised individuals hardly constitutes in itself a contra-indication to the operation. Although the risk should be recognised, the decision for the operation should rather be based upon indications in the individual case."

(2) Cunning says, "It has also been stated that because tonsillectomy is an elective operation it may be postponed for months during the season of epidemic poliomyelitis. The majority of tonsillectomies are *not* elective, however. Most of them are necessary surgical procedures.

(3) Wimborne and Stainsbury's opinion was "The results of this survey tend to confirm the conclusions of the more recent authors that the incidence of poliomyelitis in tonsillectomised individuals is no greater than in those individuals whose tonsils have not been removed."

Among more recent opinions, here are two published in 1948:—

(1) Hamilton (not an E.N.T. opinion): "It is improbable that tonsillectomy paves the way for a subsequent attack of polio."

(2) Boe and Kass (Oslo): Among 526 cases in Bergen Municipal Hospital over a decade, they found only one of bulbar paralysis in relation to tonsillectomy. In their opinion, the possibility of contracting polio, following tonsillectomy, must be considered almost negligible.

Here are three published in 1949:—

(1) Harlow: "The widespread fear of polio after tonsillectomy seems to be unfounded."

(2) Kinney: "The relationship between operation and polio appears to be only a casual one."

(3) Cunning: "After following over 17,000 poliomyelitis cases and 35,000 tonsillectomy cases, I am still of the same opinion that I was one year ago, namely, that no definite causal relationship between tonsillectomy and poliomyelitis has been established." "In the 35,000 tonsillectomies followed for a two-month post-operative period, only ***five*** contracted bulbar poliomyelitis, that is 0·014%."

He also gives figures as follows:—

Year	Bulbar cases	Without *any* recent preceding operation (%)
1946	382	92·9
1947	509	95·6
1948	1,481	97·9

Where is this overwhelming evidence, therefore? Surely it would have been more correct to say it was doubtful or inconclusive.

In my Presidential Address to the Laryngology Section of the R.S.M. (1948), I pleaded that "Careful clinical and statistical *British* facts and figures are absolutely essential and urgently necessary to the solution of this most important problem."

I am only able to give you those from two areas:—

Oxford: Over 3,000 operations in the last two years, with no case of poliomyelitis. (By the kindness of Mr. MacBeth.)

Portsmouth: Over 5,000 operations in the last three years, only one very mild case of polio (*not* bulbar).

The "K" family, with all its tragic details, has been mentioned again and the skeletons duly rattled before you; as also the two London children. But these are only sad exceptions amongst many thousands of cases, and I would suggest the lesson for the laryngologist is never to operate on members of the same family or, indeed, anyone living in the same house at the same time, but to leave an interval of at least two or three months.

May I suggest a few points which seem to me of some importance?

(1) We must preserve a sense of proportion and not be deceived by a mass of American statistics and opinions which show marked differences and, to say the least, are inconclusive.

(2) We must have British facts and figures.

(3) We need a national review, but the figures must be examined and conclusions drawn by those of *unbiased views and opinions*.

You may have seen those amusing lines:

"Locked in some cool aseptic heaven above,
Trained statisticians painlessly enquire."

Statistics are useful and necessary, but the principles and practice of laryngology must not be dominated and controlled by them. We should be as careful in drawing conclusions, as we should be from an array of selected opinions. Both can be made to prove anything.

(4) In every area there must be the closest co-operation between the M.O.H.s, medical superintendents of isolation hospitals, and the laryngologists.

(5) Finally, I fully agree this is a most important question, well worthy of our attention, and I hope this afternoon's discussion has helped, but may I read you a prominently displayed paragraph from a Trade Union weekly of last month?

"MATTER OF PERSPECTIVE." "Why should Britain annually bestow so much publicity on a few hundred cases of A.P.M. while ***20,000*** deaths from tuberculosis are regarded with complacency?"

I fear the Ministry is afraid of what is termed "Banner Headlines" in the Press.

VITAL STATISTICS (PROVISIONAL), ENGLAND AND WALES, 1949

Provisional figures for England and Wales in the Registrar General's last Quarterly Return* show that the infant mortality and stillbirth rates for 1949 were the best recorded for any year in this country.

Deaths of children under one year of age in the December quarter numbered 5,643 or 32 per 1,000 related live births, compared with 6,508 or 35 per 1,000 in the same period a year earlier. This brought the total for the year to 23,682 or 32 per 1,000, compared with 26,766 and a rate of 34 in 1948. Comparative rates in other countries in 1949 were: Netherlands 27; U.S.A. 31 and Italy 74. In 1948 New Zealand had a rate of 22; Canada 43; Sweden 23; France 51 and Belgium 50.

There were 16,895 stillbirths registered during 1949, representing a rate of 22·6 per 1,000 total live and stillbirths. This rate compares with 23·2 in the previous year. The rate for the fourth quarter, 1949, was 22·5.

Population Estimates and Projections.—Population estimates, national and regional, are shown in a series of tables, distinguishing sex, age and marital conditions. A projection showing the population by sex and age in 5, 10, 15, 20, 30 and 40 years' time is also included. It sugests (assuming certain stated conditions) that the population, which in December, 1949, the base line of the projection, was 43,946,000, will increase to a figure of 46,558,000 over the next 40 years. It is also estimated that whilst, in December, 1949, the population under 15 years of age was 21·8% of the whole, it would only be 20·2% in 40 years' time. Women aged 15 to 44, who represented 21·8%of the population in December, 1949, would be reduced to 19·9% and persons aged 65 and over would increase from 10·9% to 16·8% of the population in the same period.

Births.—There were 731,568 live births registered during 1949, representing a rate of 16·7 per 1,000 total population. This was 1·2 below that of 1948. Fifty out of every 1,000 live births were illegitimate, which is 18 per 1,000 below the average for the preceding five years.

Deaths.—Deaths during 1949 numbered 510,819, or 11·7 per 1,000 total population. The rate in 1948 was 10·8 per 1,000.

Natural Increase.—The births registered in 1949 exceeded the deaths by 220,749, the corresponding natural increase for the preceding year was 307,073 and the average for the five years 1943 to 1947 was 265,728.

Marriages.—There were 746,264 persons married during the year compared with 793,782 in 1948. The respective rates were 17 and 18·2 persons married per 1,000 total population.

Survey of Sickness.—Out of 3,497 men interviewed, 2,016 reported having had some illness or injury in August and there were 1,207 consultations with doctors; out of 4,288 women interviewed, 3,012 reported having had some illness or injury in the same month and there were 1,904 consultations with doctors.

Illness or injury of some kind during a month in the period July, August and September was reported by 64·9% of all persons interviewed; the average incapacity among all persons interviewed was 0·78 of a day per month.

Among housewives (35·6% of the total number interviewed), 74·4% reported having had some illness or injury during a month, compared with the general level of 64·9%.

CONFERENCE BETWEEN THE BRITISH MEDICAL ASSOCIATION AND THE SOCIETY OF MEDICAL OFFICERS OF HEALTH

Report on Meeting held on January 20th, 1950 †

Present.—E. A. Gregg (Chairman of Council) in the chair, J. T. Faldwin, F. Gray, Charles Hill, and J. G. Thwaites (representing the B.M.A.); C. Fraser Brockington, C. Metcalfe Brown, Sir Allen Daley, J. M. Gibson, Jean M. Mackintosh and A. A. E. Newth (representing the Society of Medical Officers of Health).

The Conference reviewed the Agreement of 1923 between the Association and the Society as modfied in 1939. Section II of this agreement is given below:—

> II. (*a*) If the Society of Medical Officers of Health propose to formulate and urge any medico-political policy which, by reason of affecting the interests of public or private practice, is of mutual concern to both the Society and the Association, the Society shall communicate its opinions or proposals with regard thereto to the Association and shall refrain from taking any further action on such policy. In the event of the Association approving such policy or proposals through its Representative Body or (if within the already declared policy of the Association) through the appropriate machinery of the Association all action consequent thereon shall be taken by the B.M.A.
>
> (*b*) Where the Association is consulted by a Government Department or by another association on questions of public health or preventive medicine, and where the Society is consulted by a Government Department or another association on a matter which is held to be medico-political—that is, likely to affect the interests of public or private medical practice—the Association and the Society shall forthwith consult together by communication between the offices and if necessary by the calling of a joint standing committee appointed for the purpose. In the event of the Association raising no objection to the proposed reply of the Society, the Society shall be free to express its opinion to the body by which it has been consulted.
>
> (*c*) In the event of dissent being expressed by the Association, either under sub-section (*a*) or sub-section (*b*), the Society shall refrain from taking any action in support of a divergent policy or from making any divergent reply to a Government Department or association consulting it until the joint standing committee has reported to the two Councils concerned, and those Councils have had an opportunity of considering the report or, at the request of either Council, conferring together.

In connection with paragraph (*a*) it was considered desirable, when matters of policy which were of mutual concern to both the Association and the Society were being considered by the Representative Body, that the Representative Body should be informed that if such policy were approved it would be referred to the Society for its views, provided that prior consultation had not already taken place.

The machinery for consultation between the Association and the Society as set out in paragraph (*b*) above was considered adequate, although it was felt that the intention of this paragraph, which is to ensure consultation on matters of mutual interest, would be more readily understood if the word "and" in the phrase "and where the Society is consulted by Government Department . . ." were interpreted as meaning "or."

The question of redefining "private medical practice" was also considered, but it was held that this phrase normally covered "general practice."

The present time was considered inappropriate to depart from the existing view that it was undesirable for a whole-time Public Health Medical Officer to engage in private medical practice.

The Conference considered at great length the following resolution of the A.R.M., 1949, which had been referred to the Conference through the General Medical Services and Public Health Committees.

> 77. *Resolved*:—That a School Medical Officer should send any child he considers to need hospital treatment to the family doctor; he should not, except in case of urgency, send the child to any particular hospital or to any particular consultant, the choice of which is the proper province of the family doctor in conjunction with the parents.

The decision of the Conference on this matter is contained in the following recommendation which is being submitted to both the Council of the Association and the Council of the Society of Medical Officers of Health.

> *Recommendation*:—(1) Where, in the opinion of a medical officer employed by a Local Authority a child needs special investigation (other than an ophthalmic examination) or treatment, he should send the child to a specialist only after prior consultation with the child's own doctor, upon whom rests the responsibility for general medical care.
>
> (2) In consulting the general practitioner, the medical officer should give him the opportunity to make the arrangements for the consultation or to agree—by replying or in the absence of a reply—that the arrangements should be made by the Medical Officer.
>
> (3) A copy of any special report on the child received by the Medical Officer should be sent to the child's own doctor.

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* The Registrar General's December Quarterly Return, No. 404. H.M. Stationery Office, price 1s. net (or by post from P.O. Box 569, London, S.E.1, price 1s. 1d.).

† This report and its recommendations were adopted by the Council of the Society meeting on February 17th, 1950. Publication has been deferred in order not to anticipate the decision of the Council of the B.M.A. The latter also adopted the report at its meeting on April 5th.

The attention of the Conference was drawn to an experimental scheme in operation in West Ham, whereby the Local Health Authority and the general practitioners concerned are informed when child patients are discharged from hospital. This scheme appeared to the Conference to offer a satisfactory means of ensuring that the requisite information was made available to the interested parties.

BOOK REVIEWS

Tuberculosis. A Global Study in Social Pathology. By JOHN B. McDOUGALL. (Pp. 455. Price 32s. 6d. net). Edinburgh: E. & S. Livingstone, Ltd. 1949.

This book will undoubtedly occupy an honoured place among the many excellent works which adorn the vast literature on tuberculosis. The author has set about his task of collecting and presenting an enormous amount of information with an enthusiasm which communicates itself to the reader. We have not had hitherto an opportunity of taking a bird's-eye view of tuberculosis as a world problem. As we read the book it becomes clear how much labour has been devoted to the study of this disease, and equally what a great deal remains to be done. This volume is an unequalled book of reference of up-to-date information about the tuberculosis problem in all countries of the world so far as the facts are known, and points out the gaps in our knowledge of those factors which influence the epidemiology of tuberculosis. Dr. McDougall suggests further lines of inquiry and ways in which those backward parts of the world where tuberculosis reaches epidemic proportions can be helped to bring the disease under control. In discussion of the statistical data the battle of heredity *versus* environment is again fought to an inconclusive end, but not before the arguments for both sides have been presented in masterly fashion. The section on B.C.G. is of special value in view of renewed interest in the subject in this country.

The author pleads for more detailed study of the part played by nutrition in the tuberculosis drama, in particular the relation between food intake and energy expenditure. Dr. McDougall considers that efforts to control tuberculosis must have two equally important aims, firstly to postpone as long as possible the age of primary infection, and secondly to maintain in as high a level of health as possible those who have become infected, so as to minimise the chances of tuberculous disease developing by endogenous re-infection.

Recent Advances in Social Medicine. By A. C. STEVENSON, B.SC., M.D., M.R.C.P., D.P.H., Professor of Social and Preventive Medicine, The Queen's University, Belfast. (Pp. viii+241. Price 18s.) London: J. & A. Churchill, Ltd. 1950.

The author of a volume in the "Recent Advances" series has no easy task. Essentially the function of such a book is to carry out a general critical survey of the progress of the preceding few years in the appropriate branch of medicine or surgery. If his field is wide, the author must choose between a sketchy treatment of the whole or a more detailed treatment of some selected parts, and if he chooses the second method he must expect his selection to stand the fire of critics.

Professor Stevenson has selected ten topics, three only of which are treated at length. A quarter of the book discusses social influences and infant mortality. The measurement of growth in children and a chapter by Dr. F. A. Cheeseman on some applications of statistical methods occupy another quarter, and the three remaining major topics are the health of children in communal day nurseries (why "communal?"), the unmarried mother and her child, and problem families. School medical inspection, "Pulheems," psychosomatic illness, and the adolescent in industry, complete the bag.

That these are true social medicine we would not dispute, but we are disappointed by the omission of subjects which are of considerably greater moment than some of them. The School Health Service is accorded a mere 18 pages and these ignore recent advances, concentrating upon a plea for the handing over of most of the work of school medical inspection to nurses! There is no mention of recent developments in the care and treatment of the handicapped and no hint of the wider constructive outlook which is becoming such an important aspect of the service. The public health services in general get less than their meed of recognition; it is true that a book on public health in the same series appeared a couple of years ago, but for Professor Stevenson to deny the public health service a chapter to itself in this book suggests a lack of understanding of modern public health.

The list of "missing" is, in fact, formidable. There is no discussion or geriatrics or of the social problems of the ageing, nothing about re-habilitation, the barest possible mention of job analysis and vocational selection, nothing about recent research into housing needs, marriage guidance, health education, epidemiology, town and country planning or food hygiene. Developments in the legislative field, a most important part of recent social medicine, are also missing; neither the Children Act nor the National Assistance Act receives attention. Most readers will be able to extend the list. The only other omission we would mention here is, perhaps, the most important of all. The greatest thing that has happened to social medicine in the last ten years is that it has started to find itself. Its search for a philosophy, for definitions and for terms of reference ought to have, and could have, provided a really significant first chapter.

The matter which is actually included, though sound enough as well as useful and interesting, hardly receives justice. The writing has its vigorous moments but too often degenerates into clumsiness. A carelessness which twice gives wrongly the title of a book to which reference is made and four times mis-spells the name of a worker well known in the public health service, some times creeps also into the punctuation and the syntax. Professor Stevenson has produced a book which is worth reading, and will be read, for what it contains, but which is sadly unworthy of its title.

Proceedings of the Ninth International Congress on Industrial Medicine, London, 1948. (Pp. 1090. Price 60s.). Bristol: John Wright & Co., Ltd. 1949.

In 1948, London had the honour of being the venue of the Ninth International Congress on Industrial Medicine, which was under the presidency of Dr. T. E. A. Stowell. A very full programme of speeches, papers, films, visits and demonstrations was arranged. Over 900 delegates, representing 46 different nations, attended the congres.

A bulky volume has now been published dealing with the activities of the congress and the papers delivered. This publication is most welcome, as it was quite impossible for a delegate to hear but a fraction of the papers, owing to the various sessions being held simultaneously. These proceedings have been arranged with the papers contributed listed under sections, thus:

Social Aspects. The Environment. Nursing. Clinical. Organisation. Special.

This wide range of subjects covered much of paramount interest to workers in the field of public health.

With such a galaxy of medical talent giving the whole world the benefit of their experience and knowledge, it is most difficult to do justice in a review, for space allows but cursory remarks regarding a few of the contributions.

Section A was on the "Social Aspects of Industrial Medicine," and was of general interest. The opening paper, delivered by F. Bartlett (Professor of Experimental Psychology, Cambridge) on "The Development of Skill," showed profound knowledge of a subject applicable to processes outside of industry. P. A. D. Gardner (Glasgow University), dealing with "Craftsmanship," deplored the loss of this offering of the worker as a result of mass production, and gave a well reasoned plea for its restoration for the good of both the individual and society. If, for economic or other reasons, individual craftsmanship is doomed to extinction, then, in his opinion, it must be replaced by "Group Craftsmanship." An interesting account of the "International Aspects of Medical Supervision in Industry" was given by H. A. De Boer (International Labour Office, Geneva).

The discussion on the "Integration of Occupational Health with National and Community Services" was opened by Dr. G. E. Godber (Great Britain), whose paper on "The National Health Service" could only at that time give the visitors from abroad a theoretical account of this service and its operation. He was questioned as to the integration of the industrial health service with the National Health Scheme and, whilst not revealing any definite Governmental plan, suggested that there would be ample opportunity for closer association of the lesser with the greater scheme as the service developed. The findings of the Dale Committee will be awaited with great interest.

A. Feil (France) discussed "Absenteeism in French Plants," examining the causes of the post-war increase, and revealed that this condition in France was similar to the probable position in this country. P. Drinker and W. A. Cook (U.S.A.), in the section on the environment, dealt with atmospheric pollution, and suggested zones of toxicity be formed according to the maximum allowable concentration of a toxin. These zones would range from comparatively harmless substances to those of less than 0·1 ppm., which included the radio active gases. (Maximum Allowable Concentration of Atmospheric Impurities.)

S. W. Fisher (Great Britain) strengthened his plea for improved pit lighting in his paper on "Mine Lighting and Miner's Nystagmus," by giving a realistic representation of a coal mine road end illuminated by various methods, including the modern fluorescent mine lighting

unit. C. N. Davies (Great Britain) gave a long and valuable contribution on "Fibrous Filters for Dust and Smoke."

School medical officers should be particularly interested in H. C. Weston's (Great Britain) dissertation on "Illumination in Relation to visual tasks." It is revealing to note that recent researches concerning illumination support the view that desirable levels for intricate work are not less than ten times as high as the values considered to be minimum standards ten years ago.

The session devoted to Thermal Comfort included a detailed paper by T. Bedford (Great Britain) on "Studies of Thermal Comfort and Measurement of Warmth." M. Critchley (Great Britain) spoke on "Thermal Acclimatisation to Hot Climates," and amongst other items called attention to the potential dangers of long-distance flights, whereby the passenger was rapidly transferred from one extreme of climate to another without gradual acclimatisation.

The Nursing session brought forward some interesting papers by Gladys L. Dundore (U.S.A.) on the "Training of the Industrial Nurse," and by Blanche B. Bishop (Canada) on "The Role of the Industrial Nurse in the Promotion of Health."

By far the largest section of the Proceedings was on the clinical aspect, and included sessions on Dermatology, Ophthalmology, Surgical Conditions, Occupational Tumours of the Bladder, Toxicology, New Metals, Pneumoconiosis and Diseases of Lungs other than Pneumoconiosis. Again the papers were too numerous to even mention the titles, so comments will be limited to a few words on a minority. A well-reasoned exposition of "The Prevention of Industrial Dermatosis" was delivered by L. Schwartz (U.S.A.). One of the most cordially received papers was "Eye Programmes in Industry," by Hedwig S. Kuhn (U.S.A.). J. Minton (Great Britain) submitted an informative account of "Occupational Diseases of the Lens and Retina." As W. P. D. Ross (Great Britain) pointed out in his discourse on "The Problem of Burns and Scalding Injuries," only one-third of such injuries occur in industry, the interest of that subject will not be confined to industry. Ross gave an account of the technique employed at the Birmingham Accident Hospital, and was a strong advocate of early skin grafting. Several papers were read on various aspects of occupation tumours of the bladder, a disease provoking world-wide investigation. Mercury and lead hazards continued to produce papers on diagnosis and treatment.

Beryllosis, which has recently come to the public notice in this country, was the subject of several papers. Apparently, it is much more prevalent abroad, for W. Machle and H. E. Tebrock (U.S.A.) gave their observations on 60 cases of chronic beryllosis, whilst C. R. Williams (also U.S.A.) analysed no fewer than 100.

Pneumoconiosis, under the chairmanship of that expert from South Africa, A. J. Orenstein, was the topic of several sessions. It was outstanding for the brilliant work of J. Gough and J. E. Wentworth (Great Britain), and by a demonstration of their most valuable technique for cutting lung sections and mounting on paper. P. Pelmár (Czechoslovakia) aroused great interest amongst his listeners with his description of a "New Method of Examining Respiratory and Circulatory Functions with a Special Reference to Silicosis." His findings correlated more with clinical, rather than radiological, appearances. K. M. A. Perry and T. A. Lloyd Davies (Great Britain) described two lesser-known lung conditions caused by bagasse and manganese respectively.

The "Organisation of Industrial Medical Services" session included papers by P. Mazel and H. Desoille (France), L. Greenburg (U.S.A.), A. Bruusgaards (Norway), N. L. Lloyd (Great Britain) and A. Nyyssonen (Finland), which dealt with organisation by the State and its departments and by private enterprise. Thanks to the "Loi du 11 Octobre 1946," the industrial medical service in France would, theoretically, seem to exercise a much better control over the health of workers than in our country.

"Chronic Carbon Monoxide Poisoning," a clinical condition gradually receiving recognition, was the subject of no less than four papers.

R. M. Hughes and P. Pringle (Great Britain) gave a brief résumé of "The Medical Content of English Industrial Law." I. Urbandt (Argentina) detailed his country's five-year-plan for "The Health and Safety of the Worker," and C. Swanston (Great Britain) reviewed the history of protective legislation in the case of women and young persons in industry.

The discussion of "The Training of the Industrial Medical Officer" was opened by representatives from Great Britain (R. E. Lane) and United States of America (R. Hussey and S. F. Meek), who were followed by a number of speakers whose comments are reported in the Proceedings.

The topical subject of Radioactivity was inevitable, and was approached from a variety of aspects.

Every aspirant to either the D.P.H. or D.I.H. should peruse these Proceedings thoroughly, for this book contains many almost certain examination questions. Medical officers of health will also find it a valuable reference, whilst to an industrial medical officer it will be a plethora of good reading.

SOCIETY OF MEDICAL OFFICERS OF HEALTH

NOTICES

ORDINARY MEETING

Notice is hereby given that an Ordinary Meeting of the Society will be held in the Hastings Hall, Tavistock House, London, W.C.1, on Friday, May 19th, 1950, at 12.15 p.m., or as soon as possible thereafter at the close of the preceding Council Meeting.

AGENDA

1. Minutes.
2. Correspondence.
3. Election of the President of the Society for the Session 1949-50, on the nomination of the Council.
4. Election of fully-paid Life Members on the nomination of the Council and their Branches.
5. Election of Fellows and Associates (see list below).
6. Nomination of Candidates for election.
7. Any other Business.

By Order,
G. L. C. ELLISTON,
Executive Secretary.

The details given in the following list include (i) the Branch to which the member will belong, (ii) name and qualifications, (iii) address, (iv) appointment, and (v), in brackets, the names of proposer and seconder.

H.C. Bonnett, Eric John Swithin, Col., M.R.C.S., L.R.C.P., D.P.H., 36, The Grove, Isleworth, Middx. Deputy Dir. Army Health, H.Q. Eastern Command, Hounslow. (P. J. L. Capon, G. M. Frizelle.)

N.W. Gaunt, Thelma R., M.B., CH.B. (LIV.), D.P.H., 30, Burlingham Avenue, West Kirby, Cheshire. A.M.O.H., Birkenhead C.B. (F. G. Foster, W. F. Christian.)

H.C. McClatchey, Samuel, M.B., B.CH., B.A.O., D.P.H., 88, Kidmore Road, Caversham, Reading. M.O.H., Royal Borough of Windsor. (J. Maddison, Mabel G. Mills.)

N.W. Mitchell, Robert, B.SC. (HONS.), M.B., CH.B. (EDIN.), D.P.H., 216, Ainsworth Road, Bury, Lancs. Deputy M.O.H., Bury. (K. K. Wood, C. H. T. Wade.)

N.I. Moss, Cecil, M.B. (BELF.), D.P.H., 66, Wandsworth Road, Knock, Belfast. A.M.O.H., Belfast. (A. D. Campbell, T. F. S. Fulton)

Met. Peterson, Osler L., M.B., M.D. (MINNESOTA), M.P.H. (Johns Hopkins School of Hygiene), The Rockefeller Foundation, London School of Hygiene, Keppel Street, Gower Street, W.C.1. Staff Member, Rockefeller Foundation. (Andrew Topping, G. M. Frizelle.)

Wa. Richards, Nest Gwenllian, B.SC., M.B., B.CH. (WA.), D.C.H., Danycoed, Alltwen, Pontardawe, Glam. A.M.O.H., Swansea C.B. (Gwyneth N. Ellis, T. W. Davies.)

W.E. Sharp, Clive Lechmere Ellis Hicks, M.R.C.S., L.R.C.P., D.P.H., The Nook, 3, High Street, Chipping Sodbury, Glos. A.C.M.O.H., Glos. C.C. (E. Catherine Morris Jones, J. C. Franklin.)

FEVER HOSPITAL MEDICAL SERVICE GROUP

President: Dr. E. C. Benn (Phys. Supt.: Seacroft Hospital, Leeds).

A meeting has been organised by the Group to be held on May 19th and 20th at the Western Hospital, Seagrave Road, Fulham, London, S.W.6.

PROGRAMME

May 19th (Friday)

10-10.30 a.m.—"Some Aspects of the Epidemiology of Poliomyelitis." Dr. W. H. Bradley, Senior M.O., Ministry of Health.

10.30-11.45 a.m.—Discussion.

11.45-12 noon.—"'Bulbar' Poliomyelitis: Problems of Diagnosis and Treatment." Dr. W. Howlett Kelleher, Physician Superintendent, Western Hospital.

12 noon-1 p.m.—Discussion.

Lunch

2 p.m.—"Problems Concerning the Use of Respirators in Poliomyelitis." Dr. Ritchie Russell, Neurologist, Radcliffe Infirmary. Followed by Dr. Margaret L. Taylor, Radcliffe Infirmary. Followed by Discussion.

Visit to Wards of Western Hospital.

Tea

May 20th (Saturday)

10 a.m.—"The Treatment of Poliomyelitis." Dr. C. D. S. Agassiz, Physician Superintendent, Queen Mary's Hospital for Children, Carshalton. A. Rocyn-Jones, Esq., F.R.C.S.,

Consultant Orthopaedic Surgeon, Western Hospital. R. H. Metcalfe, Esq., M.CHIR., F.R.C.S., Consultant Orthopaedic Surgeon, Queen Mary's Hospital for Children.

Discussion

1 p.m.—*Lunch.*

Dr. Howlett Kelleher has kindly promised to "put up" some members at the Western Hospital. Accommodation is limited and applications should be made at an early date, certainly not later than 14 days before the date of the meeting. Please apply direct to Dr. Howlett Kelleher.

Nearest station to hospital, West Brompton from Earls Court (Piccadilly Line). Leave West Brompton Station, turn left and left again at Seagrave Road—hospital about 200 yards farther on the left.

Grove Hospital, J. C. McENTEE,
Tooting Grove,
London, S.W.17.

REPORTS

EAST ANGLIAN BRANCH

President: Dr. S. T. G. Gray (Deputy C.M.O.H., East Suffolk).
Hon. Secretary: Dr. A. J. Rae (Deputy C.M.O.H., West Suffolk).

A meeting of the Branch was held at the Guest House, Brome, near Diss, on Saturday, February 11th, 1950, at 3 p.m. The President was in the chair and 31 members and visitors were present.

Co-ordination of the Child Health Service in East Anglia

Dr. R. M. Mayon White, Children's Physician, Ipswich and West Suffolk Hospitals areas, delighted the meeting with a very interesting address on "Co-ordination of the Child Health Service in East Anglia." He produced a milking stool, the strength and stability of which was increased by the fact that it rested not merely upon one or two legs, but upon three (the general practitioner, the local health authority and the facilities of the Regional Hospital Board), provided that all three legs were in proper alignment. Pressure upon the stool (the Service) tended to drive the legs farther apart at the periphery unless they were bound together by cross ties. He propounded the maxim that, whilst a grandfather had a right to die in his own home, no child should die outside a hospital or without having previously been admitted. With modern facilities for investigation and treatment cases were recovering which until recently would have been regarded as hopeless, and only if a child died in hospital could the parent feel that everything possible had been done. This meant that hospitals must be open to all seriously ill children and that hopeless cases should not go home to die unless the prognosis had been made clear to the parent. Special qualifications and experience were required by the senior staff of a children's ward, and much of the technique of the isolation hospital should be in force. The benefits derived from the reduction of cross-infection were considerable, especially when dealing with such cases as rheumatism and nephritis, and the more general use of these methods would probably do away with the need for special isolation hospitals. Dr. Mayon White disagreed with the view held by some physicians that the mother should be admitted to hospital with the child and play a large part in the nursing. In his opinion, if the child was so ill that it required hospital treatment, it required skilled nursing, and the mother was needed by her home and other children. He was not convinced that the presence even of the suckling mother was necessary, considering that the milk should be withdrawn to maintain lactation, and that other sources of breast milk could be made available to the hospital, if necessary, for babies admitted from rural areas.

One of the main points of the address was that neither the out-patient department nor the local authority clinic was the appropriate place for treatment, which should be in the hands of the general practitioner, and that nothing would be gained by sharing this responsibility with the other two, each of which had its proper part to play in securing and maintaining the health of the child.

Dr. Mayor White instanced the premature baby service as an illustration of the correct working of the three legs of the milking stool, the baby born at home being under the care of the general practitioner, with domiciliary nursing and equipment provided by the local authority, whilst specialist advice or admission to hospital was available if and when required.

With regard to the attendance at the out-patient department of children from rural areas, Dr. Mayon White had come to the conclusion that the setting up of multiple consultant clinics scattered throughout the area was impracticable as the number of children attending at any one clinic would be insufficient to justify the employment of adequately qualified staff in this way. He preferred to hold clinics at the larger hospitals only, but on as many days of the week as possible, so that appointments could be given on the day when transport was available. In his opinion it was far more satisfactory to complete all the investigations in one day; facilities being provided for the mother and the child to remain many hours on the premises, if necessary, as it was obviously impracticable for patients living in rural areas to come again next day or next week.

A further point made by Dr. Mayon White was the help which the height and weight records were to him in making a diagnosis, *e.g.*, a child suffering from fibrocystic disease showed a slow gain from birth; in coeliac disease the falling off dated from weaning; whilst the growth of a bronchiectatic would have been normal until the lungs were damaged.

The speaker considered that while the more spectacular epidemic diseases, *e.g.*, poliomyelitis, were likely to be investigated at University level, considerable scope remained for a deliberate attack upon the more common, and, therefore, to the masses, more important, diseases, such as nephritis, and that excellent opportunities were available for the collection of information in a region such as East Anglia, the paediatric services for which were based on the physicians at three centres only, Cambridge, Ipswich and Norwich, with great possibilities for co-ordination between the hospital children's department and the local authority's special medical service with their experience and facilities for epidemiological investigation.

Dr. Irene Green in a stimulating address gave the views of the local health authorities. She asked Dr. Mayon White, "What are the diseases of children?" "How are they changing?", and "How should they be treated?" Medical officers of infant welfare centres were from time to time faced with a child who was not getting on and the medical officers wanted the specialist to tell them whether the child was suffering from a disease or whether it was suffering merely from bad handling. To prevent or overcome the latter was an important part of health education and was the job of the local authority through its health visitor, who should be available to follow up cases coming to the notice of hospitals and general practitioners as well as those coming to infant welfare centres. Dr. Green mentioned the need for adequate information to be made available by the hospital about patients for whom the help of the local authority was requested, and stressed the importance of finding out whether treatments given were, in the long run, serving the purposes for which they were intended. She suggested that paediatricians might be of assistance to the health authority in advising it as to the "uses, if any, of these numerous welfare foods."

The Branch was very much pleased to welcome to the meeting Dr. Quentin, the paediatrician centred on Norwich, who contributed to the discussion, which, unfortunately, had to be curtailed owing to lack of time. Among the more important points raised were:—

(*a*) The need to ensure that some responsible member of the hospital staff interviewed the parent of every child and told them in suitable language what had been the matter, what had been done about it, and what the parents were to do in future.

(*b*) Whether all cases in which a local authority's medical officer thought a paediatrician's opinion desirable should first be referred to the family doctor.

(*c*) Brief mention of a birthday follow-up appointment system as a simple means of estimating the efficiency of treatment over a period of years.

A hearty vote of thanks to Dr. Mayon White was proposed by Dr. Jolly, of Ipswich, and Miss Sanders, of the Isle of Ely, expressed the thanks of the Superintendent Health Visitors and Supervisors of Midwives for the opportunity of being present, and hoped that this would not be the last occasion on which they were invited to such a meeting.

EAST MIDLAND BRANCH

President: Dr. R. C. Holderness (M.O.H., Loughborough M.B.).
Hon. Secretary: Dr. J. A. Stirling, D.S.C. (M.O.H., Chesterfield M.B.).

A meeting of the Branch was held in the Guildhall, Nottingham, on Thursday, November 10th, 1949. Dr. Holderness was in the chair and 25 members were present.

On the proposition of Dr. Millard, seconded by Dr. Byars, a unanimous and hearty vote of thanks was accorded to Dr. Kerr, the retiring President, for valuable services rendered during his year of office and Dr. Kerr suitably replied.

A discussion took place on the question of the increasing questionnaires being sent to medical officers of health on various subjects and the following resolution was forwarded to headquarters. "The East Midland Branch considered a questionnaire which had been sent out to certain medical officers of health by the Nuffield Provincial Hospitals Trust in connection with a job analysis of public health nurses and subsequently considered the whole question of the number of questionnaires received from

various bodies and as a result it was unanimously agreed to ask the Council of the Society to consider this matter and to see whether some method could be devised whereby bodies wishing to send out questionnaires should be requested to consult headquarters first and for medical officers of health only to complete those questionnaires thought to be of sufficient importance by headquarters."

The Branch then considered certain conclusions reached by a Liaison Committee consisting of members of the Society and members of Nursing Associations on the question of a revision in the training of health visitors and after a full discussion the Hon. Secretary was instructed to forward certain observations on this matter for consideration by the Council of the Society.

A meeting of the Branch was held in the Guildhall, Nottingham, on Thursday, December 8th, 1949. Dr. Holderness was in the chair and 25 members were present.

Discussions took place on the following subjects, B.C.G. Immunisation, opened by Dr. Gibson, and the special examination of children, *e.g.*, for boxing tournaments, opened by Dr. Newth.

Both subjects, admirably handled by the openers, gave rise to keen discussion at the conclusion of which Dr. Gibson and Dr. Newth were heartily thanked by Dr. Holderness.

A meeting of the Branch was held in the Town Hall, Sheffield, on Thursday, January 12th, 1950. Dr. Holderness was in the chair and 17 members were present.

Dr. Roberts opened a discussion on the National Assistance Act in relation to the work of the medical officer of health in the future. He dealt with this subject very fully and in an interesting and at times provocative manner. Arising out of the full discussion which followed it was felt that the subject was so important as to warrant further discussion and Dr. Roberts in conjunction with Dr. Morgan agreed to draw up a summary of Dr. Roberts' paper to come before the March meeting of the Branch.

A meeting of the Branch was held in the Guildhall, Nottingham, on Thursday, February 9th, 1950. Dr. Holderness was in the chair and 20 members were present.

Dr. R. M. Jenner, Medical Officer and Deputy Divisional Director of Fison's Research Laboratories, gave a very instructive and stimulating paper on the Chemotherapy of Tuberculosis. That this paper was appreciated was shown by the keen discussion which followed in which most of the members present took part and at the end of which Dr. Jenner was warmly thanked by the President.

HOME COUNTIES BRANCH

President: Dr. G. Hamilton Hogben (M.O.H., Tottenham and Hornsey M.B.s; Area M.O., Middlesex).

Hon. Secretary: Dr. J. Maddison (M.O.H., Twickenham M.B.; Area M.O., Middlesex).

A meeting of the Branch, which was also attended by members of the Metropolitan Branch, was held at the London School of Hygiene and Tropical Medicine on Friday, March 10th, 1950, at 3 p.m. The President of the Home Counties Branch was in the chair and 51 members of the two Branches attended.

It was resolved to put forward the name of Dr. R. P. Garrow (formerly M.O.H., Hornsey M.B.) for fully paid life membership.

Occupational Health and Local Authorities

Dr. J. A. Scott (Dep. M.H.O., County of London) opened with a short survey of the facts. First, there were 243,769 factories and workshops in the country, of which over 200,000 had less than 26 workers; 18,207, 26 to 50 workers; 10,475, between 50 and 100 workers; 7,335, between 100 and 250 workers; and 4,884, more than 250 workers. Of the total, only 4,500 factories had a medical service of some sort.

In November, 1949, the total working population was 23,384,000 (16,000,000 males), some of the main groups being engaged in: manufacturing industries, 8,395,000; building and contracting, 1,488,000; and mining and quarrying 853,000.

Industrial accidents in 1948 totalled 201,086 (861 fatal) of which over 180,000 (552 deaths) had occurred in factories.

Examinations by appointed factory doctors of young persons entering industry in 1948 totalled 137,500, and just over 1,500 were rejected; half the girls and one in 16 of the boys rejected being so because of head infestation. This apart, the commonest cause of rejection was disease of the eyes or eyelids, including refractive errors not, or insufficiently, corrected.

During 1948, 4,718 cases of dermatitis had been voluntarily notified.

The factory inspectorate numbered 328 (the authorised establishment being 378), including medical (15 in number), engineering and chemical, electrical and textile particulars branches. There were also 20 advisers on factory canteens. This inspectorate was localised in 92 districts. There were advisory boards or committees as follows: (1) Factory and Welfare, (2) Industrial Health, (3) Industrial Dust Hazards, (4) Dermatitis, (5) Ophthalmology and (6) Radiology. Medical officers of health were notably absent from the personnel of these bodies. The inspectorate also called on the M.R.C. and National Physical Laboratory for help in specific problems.

The difficulties in the shortage era were illustrated by quotations of the following paragraphs from the 1948 report of the Chief Inspector of Factories:—

> "In one London borough, for example, there are 2,714 registered factories and almost all are in "old" premises, the majority of which were built for residential purposes. Some of these comply completely with the requirements of the Act, but none can be as satisfactory and suitable as when designed as factory premises. . Most involve a disproportionate amount of man-handling of materials, for instance, in getting these on to upper floors and bringing down the finished articles." . . . "It is known that in three other contiguous London boroughs there are at least 357 underground factories not wholly bad, but they can never be as satisfactory from the point of view of safety, health and welfare as similar rooms at or above ground level."
>
> Under the 1948 Act, one month's notice had to be given to the inspector of intention to open a factory.

Dr. Scott mentioned the Slough factory medical service, but thought that this could not be a pattern for other districts, where small factories and workshops were scattered over a wide area. He considered also that Section 28 of the N.H.S.A. could not be of much value in dealing with occupational health.

The public health service could help in the following ways:—

(*a*) By improving the sanitary supervision by the sanitary authorities.

(*b*) By supplying appointed factory doctors (as permitted under Section 7 of the 1948 Act where no other doctor is available). The advantages of this were the availability of school health records and the similarity of the work, and the ability to deal with domestic and social factors through health visitors and other domiciliary staff.

(*c*) By carrying out environmental investigations and job analyses through the sanitary inspectorate and other L.A. staffs.

(*d*) By providing health education in the factory.

(*e*) By arranging for routine medical examinations of workers or preferably by seeing that medical examination and advice was readily available in the factory at known times.

(*f*) By supplying for the small factory a service which would otherwise only be available through a central department. The use of G.P.s on a sessional basis was quite feasible.

The difficulties could be summed up as follows:—

(i) *Cost.* The derating of industrial hereditaments must have an effect on the attitude of L.A.s to undertaking expenditure. The central government, in the circumstances, might be pressed to give a grant up to 75% of expenditure.

(ii) *Relations of Local Sanitary and Health Authorities.*—It was ironic that public health was the only branch of medicine where men with the same qualifications and experience did work different in kind according to the type of authority which happened to employ them. There was a paramount need to straighten out the local government tangle. The Local Government Boundary Commission's work had been most valuable and it was to be regretted that the subject of reform was so unpopular with central governments.

(iii) *Position of Large Firms and the Present Industrial Medical Officers.*—Efficient existing services provided by industry itself should be left alone and the co-ordination with a general service left to experience.

(iv) *Relation with H.M. Inspectors.*—This was not insoluble, and local government was well used to dealing with central government departments and personnel.

Dr. Scott concluded by urging that medical officers of health should press for an extended industrial health service to become part of the public health service.

Dr. V. O. B. Gartside (Dep. C.M.O.H., Oxfordshire) said that, considering its comparatively recent growth, the Factory Medical Service had achieved much in preventive medicine, *e.g.*: in 1900, 1,058 cases of lead poisoning were notified; in 1945, 45 cases of lead poisoning were notified. This reduction in lead poisoning alone probably saved the community in cost of treatment and sick benefit the salaries of the medical inspectors between these years. Lead poisoning was only one of many hazards, and specific hazards accounted for only a small portion of the total cost to industry and the community of sickness and accident absence. A tribute to the work that had been done in the past proved the necessity for as rapid an extension of the service as possible and this was the primary consideration in any question of the future of occupational health services.

Historically, the M.O.H. was an investigator of conditions in the field, and the loss of pseudo-clinical and pseudo-administrative duties had released him to return to the work for which he had been specially trained.

Environment and Health.—Comparative mortality tables showed that morbidity and expectation of life was not dependent on specific hazards. There were tremendous variations in the expectation of life in various occupations and in the incidence of many common diseases in different groups of the population, *e.g.*, angina pectoris, coronary thrombosis and diseases of the digestive system, particularly peptic ulcer. In considering these diseases, one could not differentiate between environmental factors in the home and environmental factors in the factory. Indefinite variables were summarised in the terms "Speed of Life" and "Mode of Living." Consideration of this subject made one think not of the scope of preventive medicine but of its magnitude.

For these conditions in which there were large environmental factors, curative medicine and surgery was not merely ineffective but costly, and the future of preventive medicine was guaranteed on economic considerations alone. It would not be economically possible to pay the bill for the cost of hospital investigations and treatment on the scale on which they were proceeding to-day.

Present duties in the occupational health services had been already summarised in *Public Health*. In addition, the following were noted:—

(i) *Factories Act*, 1948: *National Insurance (Industrial Injuries) Act*, 1946.—It now devolved on the M.O.H. to carry out the duties of appointed factory doctor in an area in which this post was vacant. This applied to the M.O.H. for the administrative county or county boroughs or such other medical officer as he might designate for the purpose.

(ii) *National Health Service Act*, 1946, *Section 28*.—This section covered prevention of illness, care and after-care, and could include the expansion of occupational health services under local health authorities. Work either under this heading or the previous heading could be carried out by the central health department or by the area health officer with delegated powers.

(iii) *Opportunities Should be Accepted.*—The speed of action to employ the authority already given under permissive legislation might well influence the formulation of detailed legislation. To this end their future lay in their own hands.

(iv) *Lay Administration Should be Discarded.*—In order to have time for the above duties, predominantly lay administration, which would never constitute a claim to salary revision, should be discarded in favour of preventive health work.

(v) *"Right of Entry."*—An appointed factory doctor could act as an advisor to the management of a factory as long as he had no financial interest in that factory. He should make himself conversant with the processes going on in order to conduct his medical examinations properly, *c.f.*, health visitors had never had a statutory "right of entry." They should not let lack of experience deter them from undertaking this work, if invited.

(vi) *Employment of Part-time Medical Officers or General Practitioners.*—In many areas, work could be done by full-time medical officers employed by the L.H.A. or by the general practitioners in contract with the L.H.A. Advisory work should be done by full-time medical officers of health, but the examinations of young persons for fitness for employment might be done in many cases by general practitioners or by part-time medical officers of health.

(vii) *Special Examinations.*—By the expansion of the health department's work, the medical records from birth would be available, and the health of juveniles would definitely improve by virtue of the medical officers having these records from birth available when advising and approving occupations. Routine medical examinations could be done by part-time officers, and all children who had been categorised during school medical inspections at any time could be referred to full-time medical officers for examination.

Dr. W. S. Parker (Dep. M.O.H., Brighton C.B.) said that from the practical standpoint an occupational health service must embrace all types of premises where people work, not only those registered under the Factories Act and not only those industrial premises with a large number of employees. There were a large number of registered factories each with only a few workpeople; in Brighton, of 905 factories, 820 employed less than 20 hands. Management would want to know what were the practical benefits of an occupational health service and the clear reply must be that this would cut down sickness absenteeism primarily by prevention. To do this all the workpeople of a district must be under a uniform system of observation by a simple system of sickness returns. If, for example, on the scrutiny of such returns it was shown that of a group of factories making similar products under similar working conditions, one factory had a sickness rate twice as high as any of the others, then a problem for investigation would be at once revealed. Such observation must be made by the local medical officer of health. Under a regional board the organisation would be too much detached from local conditions and, on the other hand, staffing by local general practitioners, unco-ordinated and untrained either in the analysis of returns or preventive methods, would make any analysis or comparison of sickness rates in the various parts of a town impossible. Again, the sickness rate in a factory did not depend entirely on what occurred within its four walls; one factory might have a higher sickness rate than another due to external circumstances such as more exposure of the workmen to inclement weather when travelling to and from work. How could an exclusively industrial health service deal with the environment of the workman outside the factory? No one but the M.O.H. had the whole district and its population under constant observation and no one else had the facilities to co-ordinate and compare the many factors both inside and outside the factory which have a bearing on the health of the workmen.

With reference to the selection of occupational medical officers, specialised training in toxic hazards was not needed except for certain industries where these matters were already attended to. The main hazard was trauma. In any case the B.M.A. Code for industrial medical officers indicated that after initial treatment the case was to be referred to the employee's own G.P. except by personal arrangement. There had been a demand for democratic selection of medical officers by workpeople: if the medical staff of the local authority were used to staff the occupational health service then this condition would be fulfilled in the only way recognised in this country.

One or two other members, including Prof. J. M. Mackintosh, spoke in the ensuing discussion, which terminated in a hearty vote of thanks to the openers.

METROPOLITAN BRANCH

President: Dr. F. R. O'Shiel (M.O.H., Stepney Met. B.).

Hon. Secretary: Dr. F. M. Eay (M.O.H., Hammersmith Met. B.).

A meeting of the Branch was held at 5.15 p.m. on Friday, February 10th, 1950, in the Hastings Hall, B.M.A. House. Members of the Home Counties Branch were invited to attend.

The Hon. Secretary reported that the Sub-Committee appointed to consider the duties of Medical Officers of Health and Assistant Medical Officers of Health of Local Health Authorities had met under the Chairmanship of Dr. V. Freeman, and had drawn up a comprehensive report. By the powers conferred upon the Sub-Committee the report had been forwarded to the Executive Secretary of the Society. It was resolved unanimously that the best thanks of the Branch be conveyed to Dr. Freeman and the members of the Sub-Committee for their services in this matter.

A letter was read from the Hon. Secretary of the West of England Branch, asking that the support of the Branch be given to a resolution expressing the discontent of members of the Public Health Service occasioned by the delay in adjusting salaries and conditions of service, and urging the Council to do its utmost to bring about a speedy betterment of the unsatisfactory state of affairs. It was agreed that support be given to the resolution.

A proposition that the thanks of the Branch be accorded to Dr. J. A. Struthers on his retirement from the Presidency and for his excellent and untiring services on behalf of the members was carried with acclamation. Dr. Struthers suitably replied.

An address was given by the Rt. Hon. Lord Amulree, M.A., M.D., F.R.C.P., M.R.C.S., on "Some Clinical Problems of Geriatric Medicine." Lord Amulree reviewed the difficulties met with in dealing with old people, particularly those living alone, who are unable to devote to themselves proper care and attention, and outlined an experimental scheme that he is operating in conjunction with the St. Pancras Hospital and the M.O.H., St. Pancras.

A most interesting and instructive discussion followed, in which the President, Drs. Freeman, Thompson, Blythe Brook, Clegg and

Perkins took part. Lord Amulree replied to a number of questions raised by the various speakers.

NORTHERN BRANCH

President: Dr. E. F. Dawson-Walker (M.O.H., Easington Road: M.O. Thorpe, Isolation Hospital).

Hon. Secretary: Dr. W. S. Walton, C.M. (M.O.H., Newcastle-on-tyne, C.B.).

The annual meeting of the Branch was held in the Board Room, Elswick Grange, Newcastle-upon-Tyne 4, on Friday, December 2nd, 1949.

There were present the retiring President (Dr. W. V. Macfarlane) the President-elect (Dr. E. F. Dawson-Walker), and 25 other members.

Resignation of Dr. G. Hurrell.—The Hon. Secretary reported receipt of the resignation of Dr. G. Hurrell. It was agreed that a letter be sent to him thanking him for his past services to the Branch.

Durham C.C.: Salaries of School Medical Officers.—Dr. G. H. Shanley drew attention to the position at Durham C.C., where, after the salaries of School Dentists had been raised, the County Council had refused the request of its Education Medical Sub-Committee that the existing ratio between Dentists and Assistant School Medical Officers' salaries be maintained. Further, an advertisement recently appeared in the local Press for two Assistant School Medical Officers at the old salaries, presumably because the dissatisfaction of the medical staff might result in resignation. He asked the Branch to consider requesting Medical Journals to refuse to accept advertisements from Durham C.C. and also to ask the British Medical Association to re-impose the ban on advertisements from this Authority in the *British Medical Journal*.

Dr. Pierce referred to similar anomalies in Northumberland C.C. Dr. Wilson, while agreeing that the position was most unsatisfactory, stated that the Local Authority was paying the agreed scale of salaries to both doctors and dentists and there were no grounds for banning advertisements.

Dr. Walton gave the position in Newcastle, where an increase of £200 had been given to both dentists and doctors.

After discussion, it was agreed that the facts be brought to the notice of the Council of the Society, with an expression of the Branch's concern at the position.

Future Addresses.—The Hon. Secretary reported that he had arranged for Dr. J. P. Child, Physician Superintendent of St. Nicholas' Hospital, to address the members during February, and also that Mr. H. V. Ingram would give a lecture to the School and M. & C.W. Group at the Orthopaedic Department, Royal Victoria Infirmary, on "Squint in Children." Dr. Pierce said that this would be during the third week in January. The meeting was, of course, open to all Branch members, and he asked those present to let him know if they would attend. If a sufficient number—at least ten—could be guaranteed, he would complete the arrangements.

Installation of the President for 1949-1950.—Dr. W. V. Macfarlane, the retiring President, in asking Dr. Dawson-Walker to take over the Presidency, apologised for his rather irregular attendances, but stated that illness and the Regional Hospital Board were responsible for this. He thanked the members for their loyal support during his term of office.

Dr. Dawson-Walker thereupon formally took the chair, and on behalf of the Branch, thanked Dr. Macfarlane for his services.

Dr. J. A. Charles.—It was agreed that the Branch's congratulations be conveyed to Dr. J. A. Charles on his appointment as Chief Medical Officer to the Ministry of Health.

The Annual Report of the Branch Council for the year 1948-1949 was submitted by the Honorary Secretary, together with the Financial Statement which showed a credit balance of £32 10s. 7d. The report was adopted unanimously.

Election of Council.—The following were elected as the Council of the Branch for the session 1949-1950:—

Drs. A. S. Hebblethwaite, J. Grant, J. B. Tilley, W. J. Pierce, I. McCracken, M. Hopper, E. Browell, G. Wilson, A. I. Messer, R. H. Raine, C. Elder, and W. Minns, together with the President, Vice-President, Hon. Secretary and Treasurer, and Drs. H. H. Goodman and H. L. Taylor, representing the British Medical Association.

Report of the Branch's Representative on the Council.—Dr. A. S. Hebblethwaite reported on the matters which had been considered by the Council of the Society. They included the presnt position with regard to salary negotiations, and the terms of service of Medical Officers of Health who were also Medical Superintendents of Hospitals.

Dr. E. F. Dawson-Walker then delivered his Presidential address entitled "Some Reflections on Fevers" (printed in *Public Health*, March issue).

Proposing a vote of thanks, Dr. Grant said that the address had been of great interest.

WELSH BRANCH

President: Dr. Kathleen Davies (Divl. M.O., Mid-Glamorgan).

Hon. Secretary: Dr. Mary Lennox (M.O.H., Barry M.B.).

A meeting of the Branch was held at the Institute of Preventive Medicine, Cardiff, on November 11th, 1949. Eighteen members were present.

The programme for the coming session and the audited accounts for the session 1948-49 were considered and approved.

It was decided to offer a prize to the value of £2 2s. to the best student of hygiene at the final examinations of the Welsh National School of Medicine.

Presidential Address.—The retiring President (Dr. C. W. Anderson) then installed the President for 1949-50—Dr. Kathleen Davies (Divisional Medical Officer, Mid-Glamorgan)—who addressed the members on the subject of "The Care of the Mother and Young Child."

Dr. Davies traced the development of these services from the pioneer clinics of the eighteenth century through the health legislation of the nineteenth century. Early in the twentieth century great public interest in this problem had developed and many voluntary health societies caring for infants were set up.

Ante-natal centres started in 1913 and during the first world war the maternity and child welfare movement grew, culminating in the 1918 M. & C.W. Act, which allowed for continued expansion of this work during the next 50 years. During this time the infant mortality rate had fallen by 66% but the neonatal death-rate had not correspondingly decreased. The maternal mortality rate had decreased only since 1936, when the Midwives Act and full obstetric service came into being. During the last 30 years there had been a marked improvement in the health of mothers and children due to increased education. In this the health visitor had played a large part, as had the increase in medical knowledge of nutrition, chemotherapy, blood transfusion, immunisation, etc.

Dr. Davies detailed the services now available under the National Health Service Act and asked what of the future. She suggested further work on the prevention of prematurity and neonatal deaths and research into the social and environmental contributions to the health of the family.

Professor Picken proposed a vote of thanks to the President which was seconded by Dr. Amy Jagger.

MATERNITY AND CHILD WELFARE GROUP

President: Dr. J. D. Kershaw (M.O.H., Colchester M.B., Divl. M.O., Essex).

Hon. Secretary: Dr. Kathleen Hart (Sen. A.M.O., Ealing & Acton Div., Middlesex).

Hon. Asst. Secretary: Dr. Mabel Dodds (Sen. A.M.O., Middlesex).

A general meeting was held at the London School of Hygiene and Tropical Medicine, on Friday, December 2nd, 1949.

The President was in the chair, and 24 members were present.

Apologies for absence from 17 members were read.

An interesting talk was given by Dr. Charles Cockburn, Epidemiologist in the Central Public Health Laboratory, on "Field Trials of New Prophylactics."

A vote of thanks moved by Dr. Mary Fisher was carried with acclamation.

A meeting of the Maternity and Child Welfare Group was held on Saturday, February 4th, 1950, in the Hastings Hall, B.M.A. House. The President was in the chair, and 29 members were present.

The President introduced the Children's Officer to the Surrey County Council, Miss Beryl Watson, who gave a stimulating talk. She outlined the causes and legislation which had brought the Children's Officer into being, and followed this by an interesting account of her work, and the day-to-day problems that arise.

A vote of thanks moved by Dr. Russell was carried with acclamation.

A general meeting was held in the Hastings Hall, B.M.A. House, on Friday, March 3rd, 1950.

The President was in the chair and 32 members were present.

B.C.G.

Dr. Geddes, Chief Chest Physician, Birmingham, was introduced by the President and commenced his talk on B.C.G. with a brief history of immunisation in tuberculosis. The bacillus *Calmette Guérin* was isolated during 1902, when Calmette observed that, with regular subculture, attenuation of this bovine tubercle bacillus occurred with interesting rapidity—after 200 passages the bacillus, for example, was found to be innocuous, or at least not the cause of progressive disease in the very sus-

ceptible guinea pig; 1924 was an important year in the history of the bacillus when Calmette claimed that it had become fixed in its character; that it was in fact a *virus fixe*. Petroff, however, announced during 1927 that he had been able to isolate a virulent strain from a B.C.G. culture—a statement which led to much argument but little agreement.

Since 1930, Dr. Geddes emphasised, there had been no evidence, no claims, of any recurrence of virulence, and indeed since 1924 there was no record of a returning virulence if the methods of culture approved by Calmette had been observed. Dr. Geddes spoke of his visit to the State Serum Institute in Copenhagen, and of the methods adopted there for the preparation and control of the vaccine. The procedures owed a great deal to K. A. Jensen, who had studied the habits of this bacillus over a prolonged period.

The vaccine from Copenhagen was sent to many parts of Europe, and the various tests undertaken before its issue were described—determination of its sterility, of its potency, and of its virulence or lack of virulence were under constant review both in the laboratory and from the records of work in the field.

The vaccine could be administered in several ways which were briefly described—oral, transcutaneous and intracutaneous, the latter being probably the most efficient method and the procedure which would now be adopted in this country. Accuracy of dosage and high conversion (tuberculin) rate were obtained by the intracutaneous administration of the vaccine. In Copenhagen vaccination of nurses was regularly undertaken; it was apparently readily accepted and there was no suggestion of any general reaction from the vaccination. The local reaction, which was described with the assistance of photographs, was not severe—at the end of three weeks a small papule formed with occasional pin-point ulceration, which might persist for several weeks—indeed in a series of 50 cases examined in Copenhagen minimal ulceration was present in two of these individuals at the end of three months. Complications, the commonest of which was reaction in the drainage glands, were most infrequent, and their low incidence was indicated by reference to results from a dispensary area in Jutland.

In so far as vaccination in this country was concerned, it was the intention to confine vaccination to those groups who were in regular contact with infectious pulmonary tuberculosis—the child in the home of the tuberculous patient, nurses in general hospitals and in sanatoria.

The main problem was an administrative one—the need for comparative segregation during the period of vaccination. The time table of vaccination was indicated: the initial tuberculin test; if negative, segregation for a period of six weeks; then vaccination, if the individual was still tuberculin negative; from the date of vaccination segregation for a further six weeks was necessary; a period of three months from the date of the first tuberculin test. The evidence of successful vaccination was a positive tuberculin test. There was no evidence that vaccination during the incubation of a natural infection was detrimental; nevertheless the practice of isolation, a relative isolation, was good policy during the early period of use of this vaccine.

The results obtained were reviewed and particularly those of Aronson and Palmer in North American Indians, one of the best documental surveys, and the interesting experience in Copenhagen and other Scandinavian centres, where no vaccinated child had developed a tuberculous meningitis.

Dr. Geddes, in conclusion, reminded the Group that vaccination was only one of several procedures which should be adopted to control tuberculous infection and disease.

A vote of thanks by Dr. Craigmile was carried with acclamation.

SERVICES HYGIENE GROUP

President: Air Commodore J. M. Kilpatrick, O.B.E. (Dep. D.G.M.S., R.A.F.).

Hon. Secretary: Dr. G. M. Frizelle (Sub-Dean, London School of Hygiene and Trop. Med.).

The third reunion dinner held by the Services Hygiene Group of the Society was held at Stewart's Restaurant, Regent Street, W.1, on Friday, January 27th, with the President in the chair. There was a good attendance of members of the Group and of other serving or former hygiene officers, and the guests included the President of the Society (Dr. H. C. Maurice Williams, O.B.E.) and the Medical Directors-General of the Royal Navy (Surg. Vice-Admiral C. E. Greeson, C.B., K.H.P.) and of the Army (Lt.-General Sir Neil Cantlie, C.B., M.C.). The Chief Medical Officer, Ministry of Health (Sir Wilson Jameson, G.B.E., K.C.B.) and the Director-General of Medical Services, R.A.F. (Air Marshal P. C. Livingston, C.B.E.) had also accepted invitations to be present but had both been unavoidably prevented.

Dr. Williams moved the toast of the Group and of Hygiene Officers Past and Present in a witty speech. As a former Territorial officer commanding a Hygiene Company, he appreciated the importance of the link and the mutual pooling of knowledge between the services and civil public health. The reply was by Maj.-General Thomas Young, O.B.E. (Director of Army Health) who paid tribute to the 400 members of the public health service who had served mainly as hygiene officers in World War II. The remarkable freedom from preventable epidemics during the war showed the success of their efforts. He felt that the regular Army's indoctrination of health must bear good fruit when the short service soldier returned to civil life.

The President of the Group proposed the toast of the guests. He particularly regretted the absence through illness—fortunately not serious—of Sir Wilson Jameson, whose last attendance as C.M.O. this would have been. He had always been a good friend of the Services during his strenuous term of office in war and peace and he sometimes wondered if he knew which was which. He, like the M.D.G.s of the Navy and Army, was an Aberdeen graduate. The armed Services had indeed long recognised the value of "social medicine" in their environments. The Group's strength of serving officers had grown to 60 since it had been revived, notably by Brig. G. S. Parkinson and Col. H. D. Chalke.

General Sir Neil Cantlie, in his reply, spoke of the distinguished services of Brig. Richmond and of Maj.-General Young, whose new title of Director of Army Health recognised the status of that branch. The supreme importance of health discipline had been strikingly illustrated in the current Malayan campaign. The new generation of unit commanders must learn the lesson afresh—"discipline is more important than the doctor."

Dr. F. A. Belam, T.D., proposing the toast of the Group's President, said that he was an Irishman prominent in medicine and in his service. He had been the first R.A.F. medical officer to attend the Staff College, where he had made a great impression.

In a brief reply, Air Commodore Kilpatrick extended thanks to the committee and particularly the Hon. Secretary, Col. G. M. Frizelle, for the excellent arrangements.

TUBERCULOSIS GROUP

President: Dr. T. W. Davies (Chest Phys., Swansea).

Hon. Secretary: Dr. R. L. Midgley (M.S., Hawkmoor Sanitorium, Devon).

A meeting of the Tuberculosis Group Committee was held in the rooms of the Society on Friday, February 17th, 1950, at 10 a.m.

The President occupied the chair and there were present:—Drs. C. K. Cullen, J. W. Wilson, B. R. Clarke, J. E. Geddes, G. Lissant Cox, G. W. H. Townsend, J. G. S. McQueen, P. W. Edwards, and R. L. Midgley.

The British Medical Association memorandum on tuberculosis as a scheduled industrial disease was considered and approved. This approval was sent immediately to the Council which was considering the memorandum.

The Council representative presented his report. Dr. Cullen stated that it had been decided to continue the £5 grant to the Groups for the time being. Dr. Cullen also reported that the Council did not object to the B.M.A. attitude towards the Ministry of Health scheme for dual contracts for chest physicians. Discussion of this matter led to consideration of other relevant aspects of the tuberculosis service and the Hon. Secretary was instructed to send a letter to the Executive Secretary stating our views.

The Joint Tuberculosis Council representative gave his report on the last meeting of the Council.

Dr. Edwards gave an account of the activities of the Tuberculosis and Diseases of the Chest Group of the B.M.A. It was decided that permission should be sought to make this a regular item of the agenda for future meetings of the Committee.

A memorandum on the Training of Health Visitors had been received too late for circulation with the agenda and was postponed for consideration at the next meeting.

It was decided to discuss the Ministry of Health Form T 145 at the next meeting on Friday, May 19th, 1950, at 10.30 a.m.

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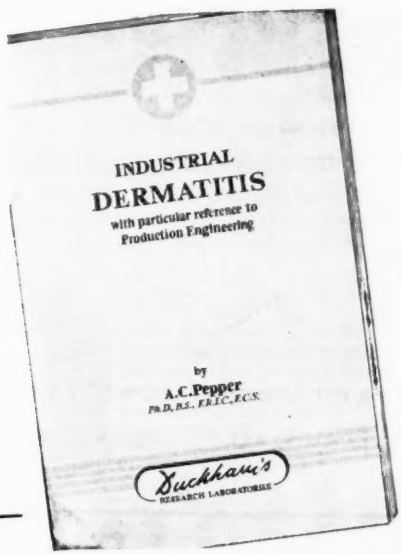

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